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THE JOURNAL OF THE LOUISIANA STATE MEDICAL SOCIETY

Formerly New Orleans Medical and Surgical Journal

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VOLUME 111

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JANUARY, 1959

through

DECEMBER, 1959

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JOURNAL of the LOUISIANA STATE MEDICAL SOCIETY

JANUARY, 1959

LOUISIANA STATE MEDICAL SOCIETY

Formerly NEW ORLEANS MEDICAL and SURGICAL JOURNAL
OFFICIAL ORGAN OF THE LOUISIANA STATE MEDICAL SOCIETY

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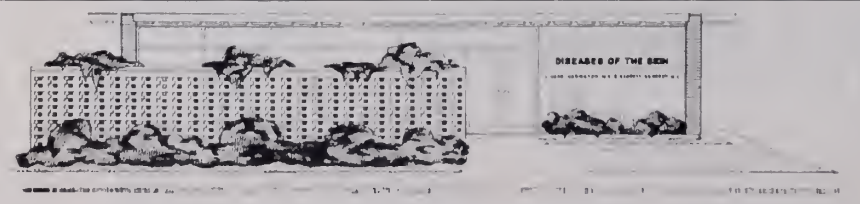
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References: 1. Hart, D.; Bagnall, A. W.; Bunim, J. J., and Polley, F. H.: Ninth International Congress on Rheumatic Diseases, Toronto, Ont. (June 25) 1957. 2. Report of Joint Committee, Medical Research Council & Nuffield Foundation, Treatment of Rheumatoid Arthritis, British Medical Journal (April 13) 1957. 3. Friend, D. G.: New England J. Med. 257:278 (Aug.) 1957.

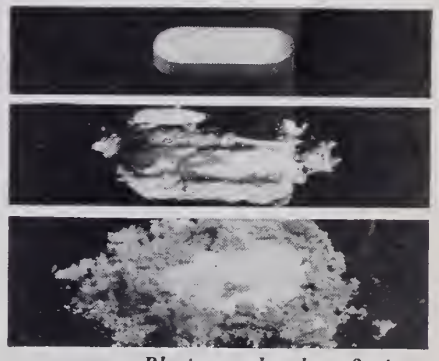
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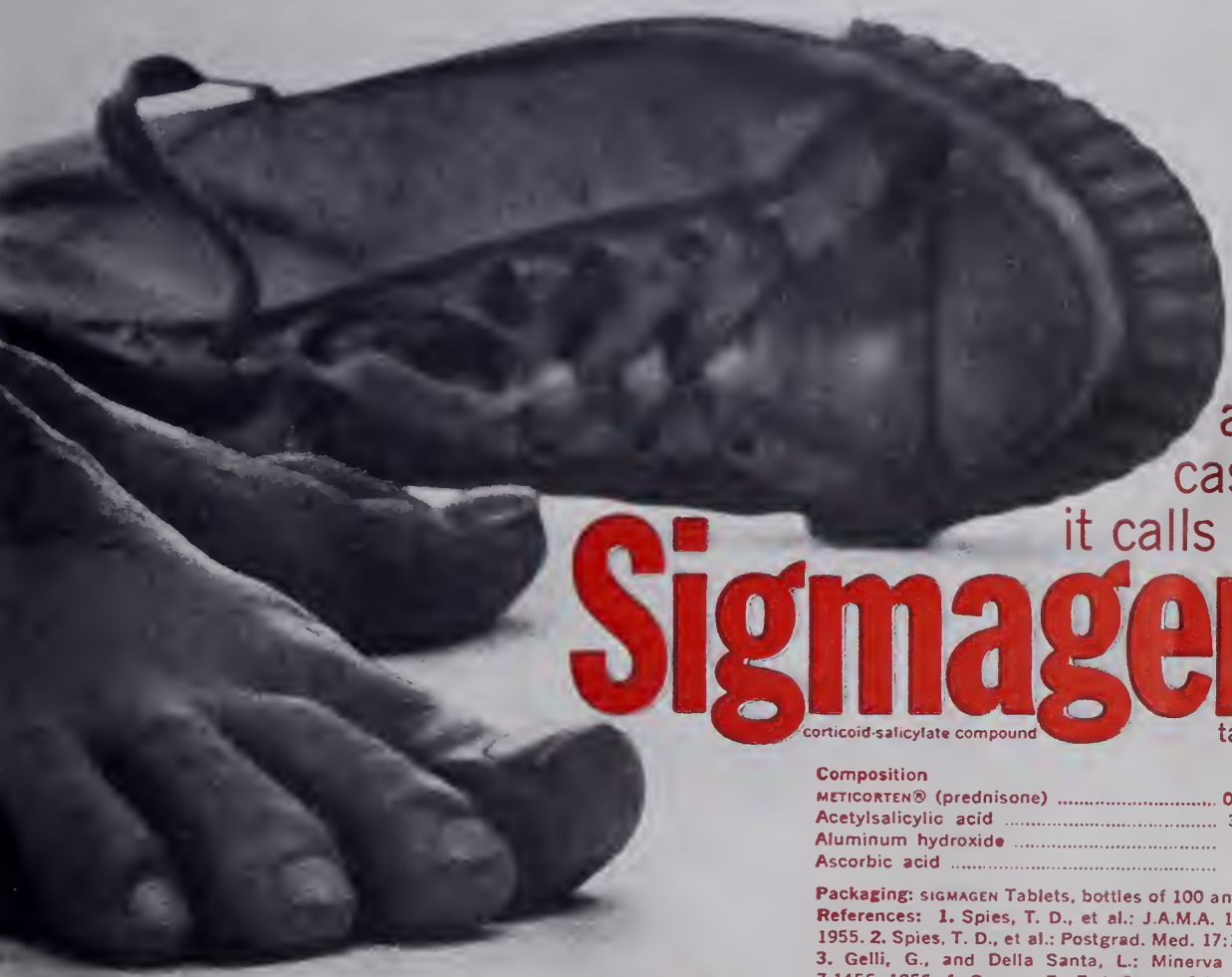
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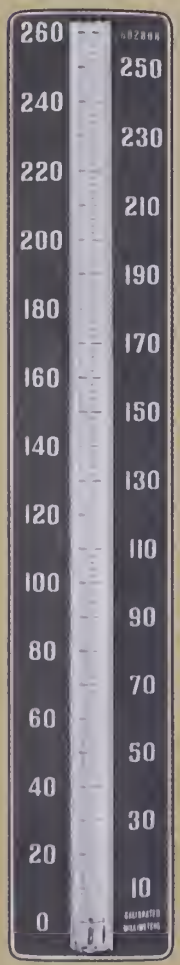
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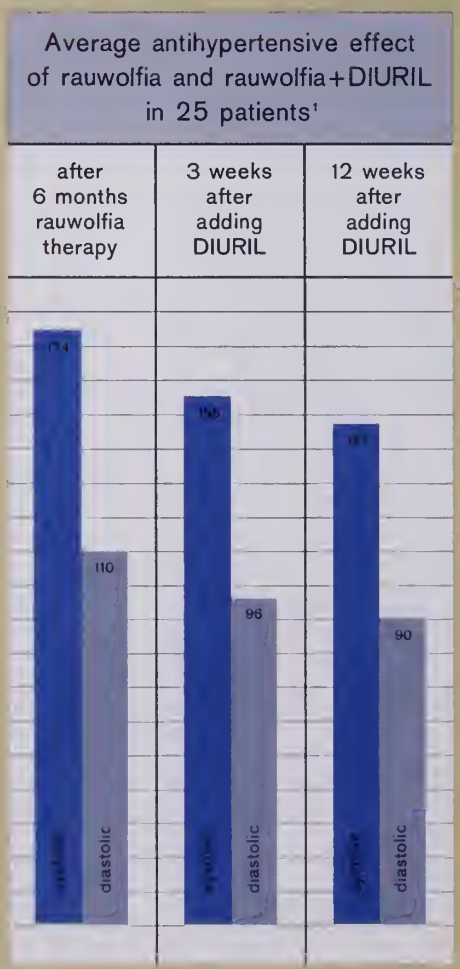
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DIUPRES may be expected to cause fewer and less severe side effects than are encountered with other antihypertensive therapy. (Since DIURIL and reserpine potentiate each other, the required dosage of each is usually less when given together as DIUPRES than when given alone. Such reduction in dosage makes side effects less likely to occur.)

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DIUPRES minimizes the problem of weight gain seen with reserpine (reserpine alone has been reported to produce weight gain in 50 per cent of patients).[1,4]

virtually eliminates fluid retention

DIUPRES is not likely to cause either clinical or subclinical retention of sodium and water. (Hypotensive drugs, particularly rauwolfia[5] and hydralazine,[6] may cause fluid retention. Even when such retention is subclinical, their antihypertensive effectiveness is diminished.[6])

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With DIUPRES, there is less need for rigid restriction of dietary salt, which patients find so burdensome.

> *"It may well be that the drug* [DIURIL] *produces the benefits of a markedly restricted low sodium diet but without its hardships."*[3]

subjective and objective improvement

DIUPRES allays anxiety and tension, thus reducing the emotional component of hypertension. Organic changes of hypertension may be arrested and reversed. Headache, dizziness, palpitations and tachycardia are usually promptly relieved by DIUPRES. When the *anginal syndrome* accompanies hypertension, the administration of DIUPRES may also cause diminution or even disappearance of this syndrome concurrent with control of the hypertension.

convenient, controlled dosage

Instead of two separate prescriptions, you write one prescription . . . the patient takes one tablet, rather than two different tablets . . . and the dosage schedule is easier for the patient to remember and follow.

> *"patients have fewer lapses and make fewer mistakes in dosage, the simpler the regimen can be made. Therefore I do not hesitate to use more than one medicament combined in one tablet, provided this gives approximately the correct dosage of each."*[6]

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DIUPRES will cost the patient less than if he were given two separate prescriptions for its components.

Indications:

DIUPRES is indicated in hypertension of all degrees of severity. It can be used in the following ways:

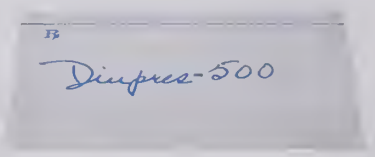
- as total therapy
- as primary therapy, adding other drugs if necessary
- as replacement or adjunctive therapy in patients now treated with other agents

Precautions:

The precautions normally observed with DIURIL or reserpine apply to DIUPRES. Additional information on DIUPRES is available to physicians on request.

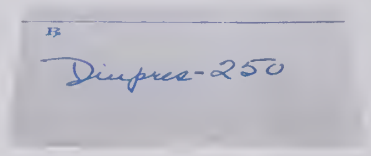
Recommended dosage range:

DIUPRES-500—one tablet one to three times a day.
DIUPRES-250—one tablet one to four times a day.
If necessary, other agents may be added.
If the patient is receiving ganglion blocking agents or hydralazine, their dosage should be cut by 50 per cent when DIUPRES is added.



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1. Rochelle, J. B., III, Bullock, A. C., and Ford, R. V.: Potentiation of antihypertensive therapy by use of chlorothiazide, *J.A.M.A.* 168:410, Sept. 27, 1958. 2. Freis, E. D., Wanko, A., Wilson, I. M., and Parrish, A. E.: Treatment of essential hypertension with chlorothiazide (Diuril), *J.A.M.A.* 166:137, Jan. 11, 1958. 3. Freis, E. D.: Treatment of hypertension. (Presented at the Annual Meeting of Southern Medical Association, Nov. 13, 1957.) 4. Moyer, J. H., Dennis, E., and Ford, R.: Drug therapy (Rauwolfia) of hypertension, *A.M.A. Arch. Int. Med.* 96:530, Oct. 1955. 5. Perera, G. A.: Edema and congestive failure related to administration of rauwolfia serpentina, *J.A.M.A.* 159:439, Oct. 1, 1955. 6. Wilkins, R. W.: Precautions in use of antihypertensive drugs, including chlorothiazide, *J.A.M.A.* 167:801, June 14, 1958.

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REFERENCES:

1. Eisenberg, B. C.: Clinical Medicine *5*:897-904 (July) 1958.
2. Feinberg, A. R., et al.: J. Allergy *29*:358 (July) 1958.
3. Robinson, H. M., et al.: So. Med. J. *50*:1282 (Oct.) 1957.

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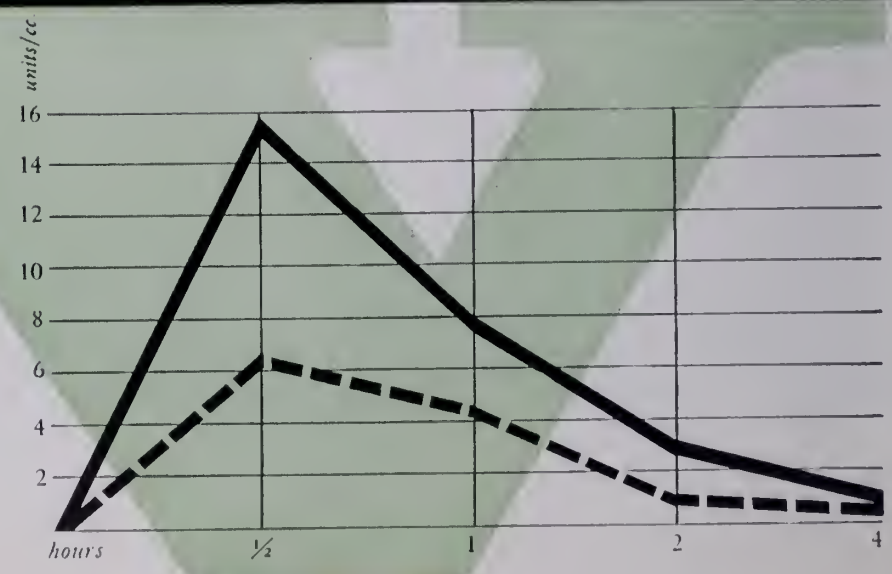

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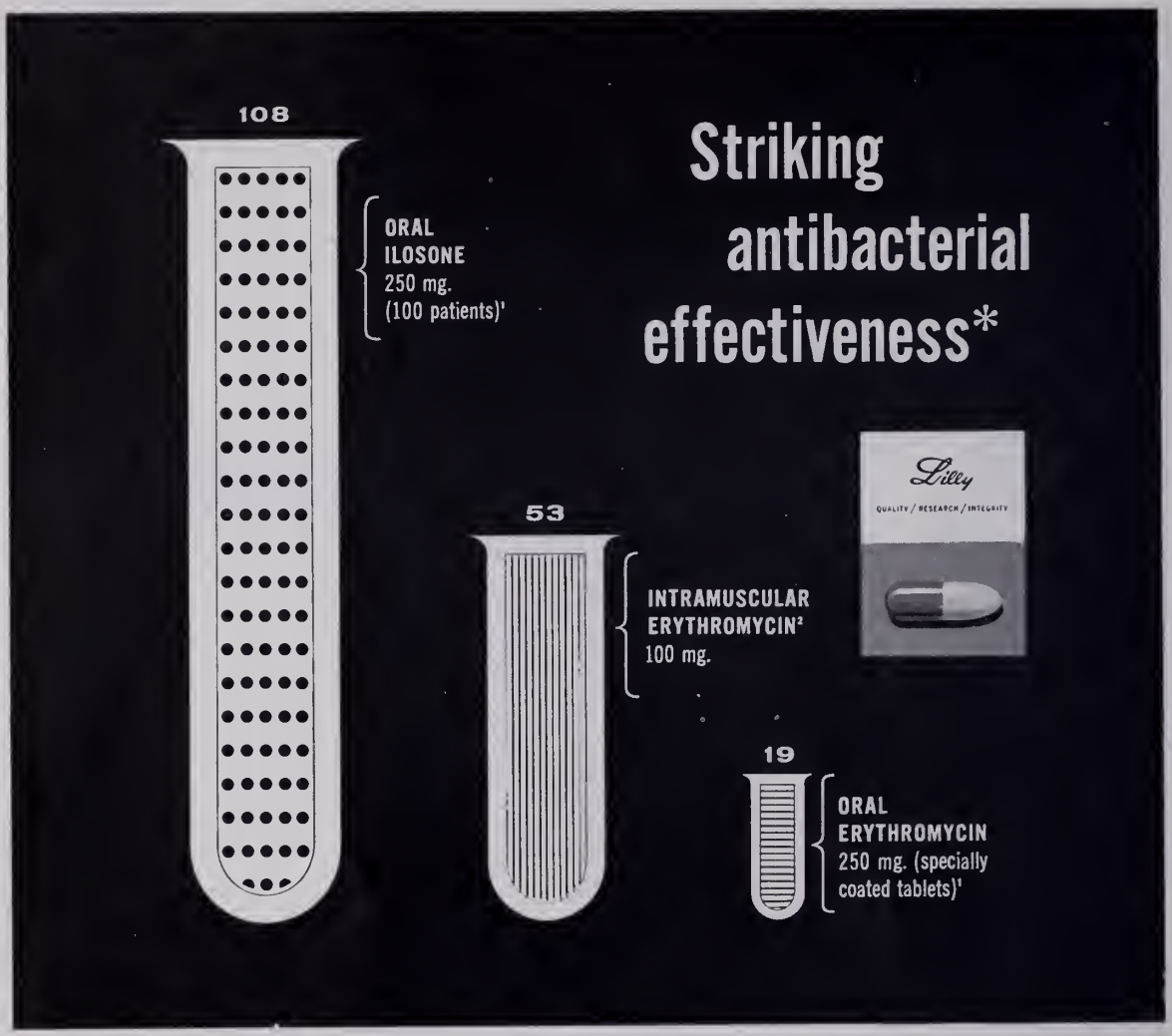
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1. Griffith, R. S., *et al.:* Antibiotic Med. & Clin. Therapy, *5*:609 (October), 1958. Note: Peak levels with the oral erythromycin tablets (thirty-three dilutions) were not observed until four hours after administration. 2. Data from Griffith, R. S.: Antibiotics Annual, p. 269, 1954-1955.

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Pancreatitis*

• The treatment recommended ten years ago for pancreatitis is obsolete now. Should the treatment be medical or surgical? The author has studied the question in the light of 445 operations for benign lesions of the biliary tract, in which pancreatitis was encountered in 25 cases.

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New Orleans

PANCREATITIS occurs far more commonly than was formerly appreciated. In the severer types the risk to life is real and in milder forms recurrent suffering and disability may be formidable. The disease assumes a variety of clinical forms. The significance of each varies and the treatment for each is different.

The following classification permits separate discussion of clinical types:

I. Acute
   a. Severe; fulminating, acute hemorrhagic pancreatitis
   b. Mild; transient edema and inflammation

II. Subacute

III. Chronic
   a. Recurrent acute or subacute
   b. Interstitial fibrosis
   c. Calcareous deposits in ducts or interstitial tissue
   d. Cysts

IV. Traumatic

All concurrent cases of nontraumatic pancreatitis are arbitrarily included in a study of 445 operations for benign lesions of the biliary tract done on a private service (Tables 1 and 2). This is justified because of the close association of primary pancreatitis and diseases of the biliary tract. Pancreatitis was encountered in 25 (5.6 per cent) of these cases. In some pancreatitis was the predominent diagnosis but in others it was only an associated condition, the main pathology then involving the biliary tract.

Jaundice was present in 12 of the 25 cases of pancreatitis. The common bile duct was opened in 24, and from 5, stones were removed. The duodenum was opened in 13 patients and in 12 the ampulla was

TABLE 1
OPERATIONS

Cholecystostomy only		6
Cholecystectomy only		315
Cholecystectomy and choledochostomy		90
Choledochostomy only		34
Gallbladder left in	13)	
Gallbladder previously removed	20)	
Congenital absence of gallbladder	1)	
Total		445

* Read at the meeting of the Southwest Louisiana Graduate Medical Assembly, Lake Charles, Louisiana, September 12-13, 1958.

TABLE 2
GALLBLADDER AND COMMON DUCT OPERATIONS

	Deaths	
Total operations	6(1.3%)	445
Common duct explorations		124
Combined supra- and trans-duodenal (Stones found 24)	1	58
Supraduodenal only (Stones found 18)	2	66
Sphincters cut		49
Stenosis (Group in which duodenum was opened)		40
Jaundice		54
With stones (Stenosis 7)		29
Without stones (Stenosis 13)		25
Stenosis (7 had stones)		20
Pancreatitis		11
Stones		42
With jaundice (Stenosis 7)		29
Without jaundice (Stenosis 4)		13
Stenosis		11
Pancreatitis		25
Jaundiced		12
Common ducts explored (Stones 5)		24
Duodenum opened		13
Ampulla cut		12
Divulsed		1
Gallbladder removed		15
Gallbladder previously removed		4
Gallbladder not removed		6

cut; in one it was forcefully divulsed under vision.

Three of the patients had acute pancreatitis with fat necrosis. In one of them cholecystostomy only was done because of the intense edema associated with acute hemorrhagic pancreatitis. In the other two the common bile duct was opened.

All of these 25 patients with pancreatitis recovered from operation. One of them who had stones removed from the common duct through the supraduodenal approach at a first operation had to have a second one with a transduodenal ampullotomy. The long-term results have been excellent in all. Only one patient formerly having severe attacks has had several mild recurrences.

Treatment of Pancreatitis

Superiority among methods used for treatment is debatable. Treatment is in an inconclusive stage and constantly changing phase. A chapter on treatment of pancreatitis written by Allen Whipple for Cecil's Textbook of Medicine in 1948 is obsolete today. Is the treatment medical? Is it surgical? Is the medical treatment to be continued indefinitely? Is the surgical treatment conservative or aggressive? A variety of different viewpoints may be found in the literature.

Medical Treatment

Medical treatment consists in a variety of drugs to bring about indirect regression of the disease. Mentioned should be:—Banthine, gastrointestinal nasogastric tube decompression and fluid and electrolyte replacement. Theoretically, the use of morphine is undesirable since experimentally it causes spasm of the sphincter of Oddi. Demerol is preferred and nitroglycerin may relax the sphincter. Rarely is calcium replacement necessary because of a deficiency due to saponification. All of these drugs probably have minor effects in addition to the general supportive measures which at the same time are given the patient. Antibiotics should be used freely with the intention of preventing serious microbial complications. ACTH and Cortisone have a decisive beneficial effect in the severe cases and may be regarded as the most specific medication available. ACTH may be administered in severe cases intravenously as aqueous solution in doses of 80 to 100 units a day or Meticorten may be given orally, 25 mg. twice a day. The action of these drugs is to diminish the edema and swelling and to support circulation. Eventually these drugs, like propyl thiouracil, may prove to be more important as preoperative measures than when solely restricted to medical treatment.

Surgical Treatment

In the past only one type of surgical treatment was considered. This concerned the advisability of opening the abdomen in the acute hemorrhagic variety. The objective was to drain the inflamed pancreas or lesser peritoneal cavity. This idea is now obsolete. The procedure had a terrific mortality in the preantibiotic, predecompression and pre-electrolytic phase

of our knowledge, perhaps reaching 30 to 35 per cent; so that surgical treatment met with disfavor and even among surgeons a period of most intense surgical inaction developed.

The only other historical phase which may be recounted is that in the past chronic pancreatitis of the severe types was regarded as almost an incurable disease. Prior to fifteen years ago the operations which we consider today for that condition were not undertaken; such operations as partial pancreatectomy, retrograde drainage, ampullotomy and incision into the duct with removal of stones. Rather, at that time, indirect procedures were attempted such as splanchnicectomy to stop the pain.

With the increase of facilities, with better knowledge about electrolyte and fluid replacements, with more definite evidence that pancreatitis is due to partial or complete obstruction with regurgitation of bile into the pancreatic ducts, a different attitude is justifiably taken by surgeons. Some of them today adhere most violently to the conservative attitude. I belong to the group who feels that pancreatitis is a surgical disease in the acute or chronic phase and that operation is indicated, but that judgment as to when the operation is done is a most important consideration.

What are the operations which are indicated? In chronic pancreatitis it is important to obtain pancreatic duct drainage. Very often in this group ampulla stenosis is found when exploring the common bile duct, and transduodenal ampullotomy will correct the condition with an amelioration or absolute disappearance of their symptoms in 85 per cent of these patients. If the condition is permitted to progress without securing free emptying of the pancreatic duct, calcareous changes may occur. These are more difficult to reverse. When roentgenographic evidence of calcareous changes are present stones are almost invariably present in the pancreatic duct and the shadows are not merely calcium in the interstitial tissues. Stones may be encountered at the time of ampullotomy and if they are suspected, a generous incision through the ampulla should be made and the duct should be probed and the stones removed.

If stones are numerous in the duct of Wirsung it may be necessary to make an incision directly into the pancreas as suggested by Puestow.

When there is calcinosis, calcareous degeneration in the interstitial tissue of the pancreas, partial pancreatectomy may have to be considered.

When it is not feasible to obtain adequate drainage with the duodenal route, a partial pancreatectomy with anastomosis to the Roux-Y loup of jejunum can be a helpful operation.

All these procedures are more or less direct and they are intended to correct the mechanical defect which brings about the persistence of pancreatitis. Indirect procedures such as vagotomy, splanchnicectomy, gastrectomy (to reduce secretin) and choledochojejunostomy are mentioned as more or less obsolete and are to be condemned. They do not tackle the problem directly and they do not remove the cause nor prevent the progress of the disease.

In acute hemorrhagic pancreatitis, there is even more debate among surgeons as to what role active intervention should play. Some feel that the patient should be treated conservatively and by medical means. I feel they should be operated upon unless the cause is such that it will automatically disappear such as acute alcoholism with edema of the papilla of Vater. Then operation may not have to be done. Certainly, if there is a recurrent attack, operation is clearly indicated. But if a stone is impacted in the common duct or there is stenosis of the ampulla of Vater operation is clearly indicated. The objective of the operation is to decompress the biliary tract. If feasible this means choledochostomy with removal of the stone and if the process is not too acute with edema around the duodenum, duodenotomy and ampullotomy are indicated (Figure 1). One of the indications for combined supra- and transduodenal exploration of the com-

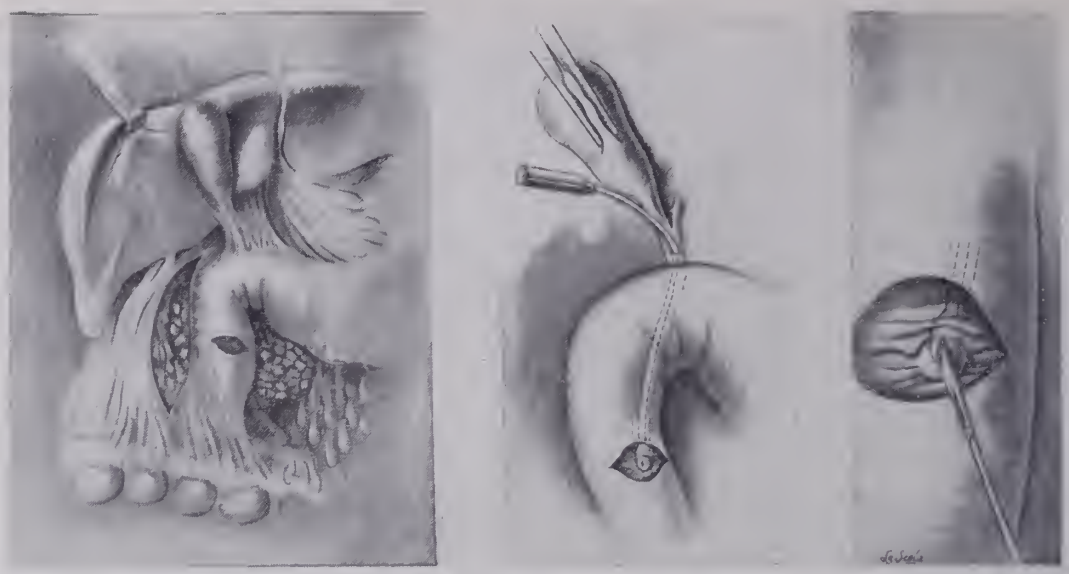


Figure 1. The technical maneuver adding duodenotomy and ampullotomy to a supraduodenal exploration of the common duct, necessitates mobilization of the duodenum. A small transverse incision is made in the duodenum and the ampulla is cut, with the sound acting as counterresistant fixation. The opening in the duodenum is closed with precisive care.

mon duct is failure of the Bakês dilator to pass with certainty into the duodenum. One of the contraindications listed is the presence of intense edema around the duodenum. Therefore, in the acute hemorrhagic variety of pancreatitis decompression may have to be of a limited type, either a choledochostomy if this is feasible or if the patient is too sick and if there is intense edema simply a cholecystostomy which does decompress the biliary tract.

Cysts of the pancreas are most commonly pseudocysts. They may be the residual of acute hemorrhagic pancreatitis or recurrent attacks of pancreatitis or they may be the result of traumatic pancreatitis. In any event, their presence demands surgical intervention, and drainage of these cysts results in a remarkably high percentage of absolute cures. In 1928, together with Judd and Mattson, I reported 96 cases of cysts of the pancreas. The predominant treatment in this group was marsupialization. This is an obsolete operation today and it should not be done. The operation indicated is internal drainage of the cysts into the stomach or into the jejunum. The technical trick of draining the cysts is not to find a free loop of bowel or part of the stomach and pull it over the cyst and make an open anastomosis; it is to go through a viscus, the stomach or jejunum or even the duodenum, which is already adherent to the cyst, to test the contiguity by needle aspiration, then to make an incision through the posterior aspect of the viscus which provides an automatic anastomosis. (Figure 2) The edges may be sewed together to insure additional security. Then the opening into the stomach or jejunum is closed carefully with running No. 00 chromic catgut. The cyst drains out and acts as an accessory pancreatic duct. Rarely does short gastrointestinal roentgenographic examination subsequently demonstrate its persistence.

Sometimes pancreatitis is discovered at operation when it may or may not have been suspected before opening the abdomen. It may be found in from 6 to 10 per cent of operations done for benign lesions of the biliary tract. The findings which justify such a diagnosis are usually an enlarged hard pancreas. Rarely is fat necrosis present unless the attack is particularly violent. This high incidence makes it essential for the surgeon to evaluate carefully the state of the pancreas at the time of operation. When such findings

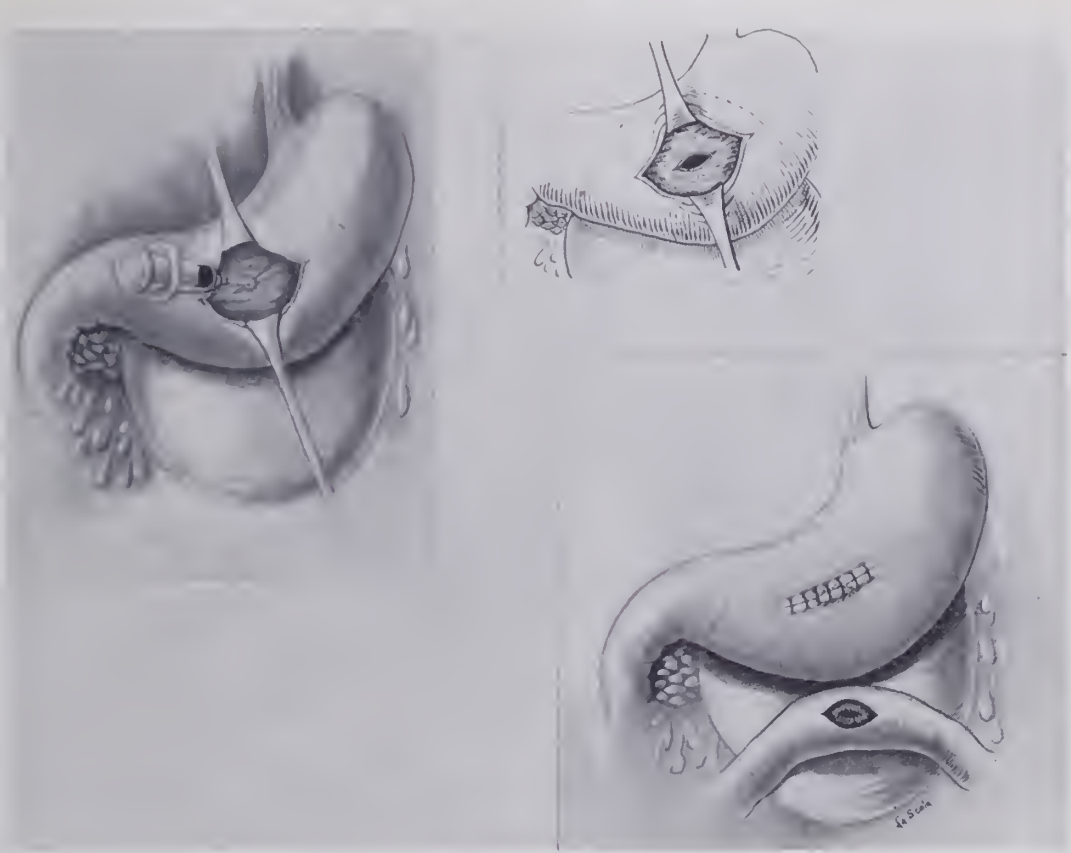


Figure 2. The proper method of handling pseudocysts of the pancreas today is drainage into the stomach or small intestine.

are present the common bile duct should be explored.

It is preferable to explore through a combined supra- and transduodenal route in all cases in which pancreatitis is found; but contraindications to opening the duodenum supersede the indications and when the former are present the duodenum is not opened. Contraindications include (1) massive edema of the gastrohepatic omentum extending onto the duodenum and (2) debilitated or very old patients.

Causes

The causes of pancreatitis are multiple; some are obscure and debatable, others are very definite. At times blood-born infection, particularly viral such as mumps, may initiate the disease but this is among the least common causes. Trauma is not an infrequent cause and though accidental injury is included, trauma at operation from retraction, displacement, and deliberate cutting is more frequent. Always, however, partial or complete duct obstruction reasserts itself as the most common cause of pancreatitis; that is, primary pancreatitis. The clinical report and the experimental work of Opie left an unforgettable indictment against obstruction as the predominant factor. The common channel with regurgitation of bile mixed pancreatic juice may be necessary but obstruction is the foundation of this. One would be naive to think because such a high percentage (40 per cent) of patients with acute pancreatitis have a history of intense hard liquor consumption, that the alcohol was so strong it caused an inflammation through the gastric wall and into the pancreas. The acceptable explanation is that the ampulla of Vater, as well as the gastric mucosa, becomes edematous and obstruction again is the major factor. After initiation of the process, progress of the disease to fibrosis, stone formation in the ducts, and calcareous deposits in

the interstitial tissue are possible and such changes manifest themselves clinically by recurrent or continuous severe symptoms.

Diagnosis

The diagnosis of pancreatitis is at times most difficult. Pain is a predominant feature and in its most characteristic manner it is present across the upper abdomen and radiates through to the back on the left side. Notably it may be associated with gall stone colics, and posterior pain on the left side is suggestive of an associated pancreatitis. In addition to this, in the more acute forms there are nausea and vomiting, rapid pulse, fever, distention and rigidity, circulatory collapse, edema in the left flank, exquisite tenderness in the upper abdomen, and in general the appearance of a very sick patient. These features may be mimicked by other conditions, and it is unfortunate that, so far, there is no constantly reliable test for distinguishing them. The most reliable laboratory test under these circumstances is an elevated enzyme report. A serum amylase reaching from two to twenty times normal in Somogyi units is very significant but not always pathognomonic. This test is of evanescent value because quickly during the period of recovery the high amylase disappears from the blood and on the third or fourth day of the attack this laboratory evidence has disappeared and it is unlikely that an abnormal change indicative of pancreatitis can then be elicited. The elevation of the serum lipase endures for a longer period up to the fifth day but it is less likely to be elevated and as a test it is less indicative of pancreatitis than an elevated amylase. A report of 3.5 to 5 milliliter N/20 sodium hydroxide is positive. In addition to these changes the serum calcium may fall from a normal of 10 mgs. per cent because in acute pancreatitis calcium of the blood is withdrawn to provide saponification of the split fat in fat necrosis. This is rarely clinically apparent but the possibility of calcium deficiency should be known and if laboratory evidence shows it, it should be replaced.

In the chronic phases the diagnosis must be suspected more on the clinical symptoms, not on the objective findings or laboratory evidence. Positive clinical evidence in chronic pancreatitis is the presence of a mass as in cyst formation or a large indurated pancreas or the presence of jaundice associated with pancreatic pressure on the common duct. Laboratory evidence in the chronic phases consists of excess values of fat in the stool or roentgenographic evidence which when positive may show an enlarged duodenal loop or displacement of a viscus or the disclosure of calcium deposit or stone by radiopaque shadows.

Each of these types, the acute and the chronic, can be distinguished at the operation. In the acute phase there is a massive edema with fat necrosis and with the presence of a serosanguinous fluid in the abdominal cavity. In the chronic phase the findings are different. Fat necrosis is absent, there is no widespread edema or serosanguinous effusion but the pancreas itself feels firm and enlarged, usually uniformly. In the final phases of chronic pancreatitis with fibrosis the organ may be shrunken and intensely hard.

Even in those cases in which pancreatitis is not suspected when the patient is being operated upon under a diagnosis of a benign lesion of the biliary tract, for example cholelithiasis, pancreatitis may be sometimes encountered. If the surgeon has a routine in exploring the abdomen—checking the spleen, the esophageal hiatus, the stomach, the liver, the kidneys, the duodenum, the gallbladder and bile ducts, and the pancreas—he may pick up certain changes which would make less likely the persistence of symptoms after a cholecystectomy resulting in postcholecystectomy syndrome. If the pancreas is hard, he ought to be able to detect it and that in itself is sufficient evidence for the diagnosis of pancreatitis.

Summary

In a group of 445 operations on a private service for benign lesions of the

biliary tract pancreatitis was encountered 25 times.

The medical and surgical measures are discussed. ACTH and cortisone are most helpful drugs in the acute phase and their effect may be highly specific.

The objectives of surgical treatment are to remove the obstruction to pancreatic drainage which is the cause of primary pancreatitis.

Combined supra- and transduodenal exploration of the common bile duct with ampullotomy is indicated when pancreatitis is encountered at the operating table. Contraindications to opening the duodenum supersede the indications. They are marked edema in an acute process and operations on the debilitated or aged patient.

Historical Notes

The first issue of the New Orleans Medical & Surgical Journal was published in May 1844, and edited by Dr. Erasmus D. Fenner and Dr. A. Hester, "One of the physicians to the New Orleans Charity Hospital." The title page states that it is "Devoted to the Cultivation of Medicine and the Associate Sciences (Bi-Monthly)" and that the contents or "Arrangements" consist of:

"1. Original Communications, Cases and Surgical Operations Occurring in Private Practice.

"2. Health of the City, with Reports from the New Orleans Hospitals.

"3. Periscope of Practical Medicine—or Spirit of the Medical Journals, Foreign & Domestic.

"4. Brief Notices of Recent Medical Literature."

An editorial note reads: "The difficulty of starting a work like this in such a City as New Orleans, where there is no publishing office for books, and the cost of printing is so high, cannot be conceived. This must be our apology for the slight delay of our first number; as well as for any inaccuracies or defects that may be observed. They shall be avoided in future as far as practicable. Our subscribers may rely upon our firm determination and unremitted exertion to maintain this work. If we live, it shall not be abandoned—at least until a fair experiment has been made."

We hope our readers join with us in wishing that the "experiment" continues to enjoy a long and successful life.

A General Consideration of Carcinoids with Presentation of Illustrative Cases*

• A review of literature on carcinoids, the pathology, their potentials for metastasis, and clinical aspects, with 7 case reports are given by a member of the Department of Pathology of Tulane University Medical School.

FRIEDRICHS H. HARRIS. M.D.†
New Orleans

THE purpose of this presentation is twofold. Firstly, a brief general review of facts concerning carcinoids will be given stressing some of the common misconceptions held with regard to these neoplasams. Secondly, a group of 7 cases will be presented to illustrate some of the features mentioned in the general review.

The term carcinoid was first given to these neoplasms by Oberndorfer in 1907 [12] because he regarded them as being carcinoma-like in their histological appearance though unlike carcinoma in their biological behavior. That this is an erroneous concept has been demonstrated by numerous case reports, [13] since that time, as well as by 3 of the case presentations to follow in this paper. Because of this, some [13,10] have suggested that the term be discarded and a more appropriate name such as Argentaffin tumor be used.

Location

Carcinoids occur in virtually every part of the gastrointestinal tract including Meckel's diverticulum but excluding the esophagus. In addition, they have been reported [12] in the mesentery, gall bladder, teratoma of the ovary, and as the so-called carcinoid type of bronchial adenoma.[5,15] In the gastrointestinal tract about 30 per cent of extra-appendiceal carcinoids are multicentric.[12] Dockerty [2] states that 90 per cent of carcinoids occur in the appendix, however, other authors [6,12] have series with only 50 to 70 per cent occurring in that organ. In an analysis of 565 extra-appendiceal carcinoids gleaned from the literature, Dockerty gives their locations as follows: 396 ileal, 69 rectal, 25 colonic, 25 gastric, 17 cecal, 13 jejunal, 10 duodenal, 6 within teratomas, and 4 in the gallbladder. As regards those occurring in the appendix, Weiss and Hertzog [22] report that 0.15 per cent or about 1 out of 500 surgically removed appendices contain carcinoids; whereas Pearson and Fitzgerald [12] report only 1 appendiceal carcinoid in a survey of 11,621 consecutive autopsy protocols. The discrepancy might be explained by assuming that carcinoids are easily overlooked at autopsy and may not be reported, but a difference of this magnitude suggests that some appendiceal carcinoids can give rise to symptoms leading to surgical removal of the appendix. Pearson and Fitzgerald did not state how many out of the 11,621 autopsy cases had previous appendectomy.

Age and Sex

Some interesting statistics with regard to age and sex distribution of carcinoids have been presented in the literature. Between 70 [22] and 87 per cent [9] of appendiceal carcinoids have been reported in females in the third and fourth decades of life.

* Presented at the Seventy-eighth Annual Meeting of the Louisiana State Medical Society, in Shreveport, May 6, 1958.

† Department of Pathology, Tulane University School of Medicine, New Orleans, La.

This high percentage in females may be at least partially the result of the fact that women of this age group are more likely than men to have operations during which an incidental appendectomy may be performed. In the series of 26 cases of appendiceal carcinoids reported by Weiss and Hertzog,[22] 14 of the carcinoids were discovered in appendices removed incidentally during a laparotomy, and, 85 per cent of their cases were females. Contrasted to these figures for appendiceal carcinoids, in Kevorkian's[9] 126 cases, the persons with extra-appendiceal carcinoids averaged 55 years of age and 60 per cent occurred in males, who had 3 times as many malignant lesions as did females. Kevorkian also reported that 82 per cent of all small bowel carcinoids were found in males in the sixth to eighth decades of life, that 69 per cent of rectal carcinoids occurred in females averaging 52 years of age, and that there was very little sex difference in his cases of carcinoid of the colon in which the average age was 60 years. A carcinoid with metastasis is very seldom discovered in a person less than 40 years of age.[12]

Pathology

The origin of these neoplasms from the chromo-argentaffin cells (Nicolas-Kultschitzky) of the intestinal mucosa has been well established by the exacting studies of Masson.[10] He demonstrated that both carcinoid cells and chromo-argentaffin cells contain cytoplasmic granules whcih stain with silver (Figure 1) and chromates, and, he pointed out other cytologic similarities between the two as well as histologic features which support this concept. From his studies reported in 1928 he theorized that carcinoid type cells secrete a chemical substance likening them to endocrine glands, but this theory awaited proof for some twenty-four years before its truth began to be appreciated in 1952 with the first report which led to the recognition of the so-called "Carcinoid Syndrome".[1]

Grossly, the typical carcinoid is a small, submucosal, yellow nodule seldom more than 1.5 cms. in diameter. (Figures 2 and 3) However, they may be white, gray, tan, pink, brown or combinations of these colors, and though rarely more than 3 cms. in diameter they may attain larger sizes. In the appendix they almost always pre-

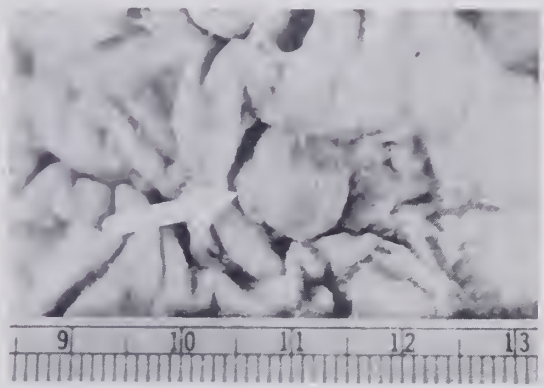


Figure 2. Gross appearance of ileal carcinoid (Case No. 6). Arrow points to the lesion as seen from the mucosal side.

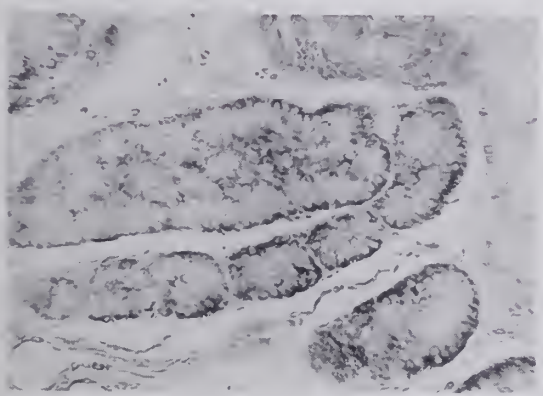


Figure 1. Carcinoid of ileum (Case No 6), Fontana Masson silver stain. The dark staining around the periphery of the tumor represents silver positive cytoplasmic granules characteristic of carcinoids (X260).

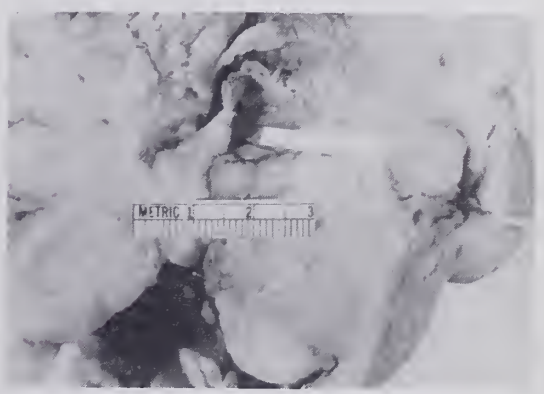


Figure 3. Gross appearance of ileal carcinoid (Case No. 6). Intestine has been sectioned through the lesion transversely and laid open like a book. Serosal surfaces meet near the center of the picture. Arrow points to one of the two cut surfaces which appear in the picture.

sent as a bulbous enlargement of the distal end and usually obliterate the lumen.

The typical microscopic pattern (Figure 4) is that of more or less rounded nests

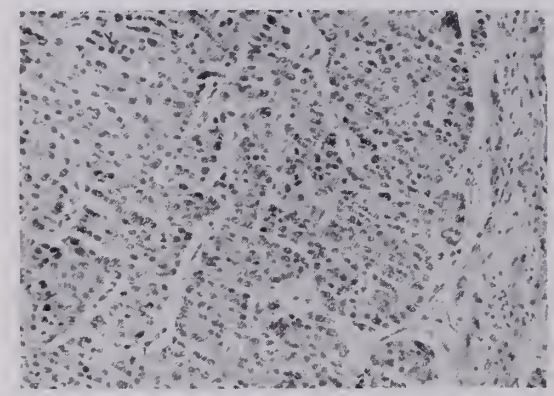


Figure 4. Photomicrograph of metastatic carcinoid in the liver (Case No. 7). Note that the characteristic histologic appearance of the carcinoid is maintained in the metastatic growth. A band of compressed liver cells is present along the right margin (X260).

or sheets of polygonal or rounded cells with a rather foamy pink cytoplasm and round or oval, stippled nuclei. However, the cells are sometimes columnar and there may be a suggestion of gland formation or palisading. Stout [16] has described a pattern of festooned ribbons of the cells in rectal carcinoids, and this was observed in the carcinoids of the rectum referred to later in this paper. The neoplasm commonly infiltrates the mucosa, submucosa, and muscle wall out to and including the serosa, and, it may be accompanied by fibrosis which causes kinking of the muscle wall. Cells comprising the tumor do not always stain with silver,[6] and, it may be that this staining property depends on the functional state in which they happen to be.[16] There is no difference between the histology or cytology of those tumors which remain localized and those which have metastasized. Thus, the clinician can expect little help from the pathologist in predicting the clinical potentialities of these tumors on the basis of microscopic appearance. This being true it would seem safe to regard all carcinoids as low grade malignancies with the potentiality for producing metastases. It seems no more logical to say that a carcinoid which has not metastasized is not malignant than it is to say an epidermoid carcinoma of the skin which has not metastasized is not malignant.

Malignancy

Ritchie and Stafford [13] reported that 37.9 per cent of 332 cases of carcinoid tumor collected from the literature had metastases. However, the percentage of cases with metastases varies widely depending on the location of the primary. It is difficult to obtain any figure on the percentage of appendiceal carcinoids which metastasize, but just taking as an example the report of Pearson and Fitzgerald [12] and that of Horn [6] which together give more than 100 carcinoids of the appendix with no metastases the figure could be estimated to be less than 1 per cent. About 24.4 [7] to 29 [9] per cent of small intestine carcinoids metastasize; whereas 12 per cent [3] of rectal carcinoids, and as many as 84 per cent [4] of colonic carcinoids are associated with metastases. One reason given for the high rate of metastases of carcinoids in the colon is that they can grow for a long time and reach a large size before producing any symptoms which would lead to detection.

Sites to which carcinoids may metastasize [12] include first of all regional nodes, and in descending order of frequency liver, serosa of intestines, and other abdominal nodes. Metastases have also been reported in the heart, lungs, mediastinal nodes, pancreas, spleen, kidneys, adrenals, ovaries, testes, bone marrow, brain, dura, and soft tissue, including subcutaneous tissue and skeletal muscle.

Clinical

Carcinoids easily escape detection. When in the appendix, symptoms of appendicitis may be present but in slightly over one half of the cases carcinoids of the appendix are discovered incidentally.[22] Carcinoids elsewhere in the gastrointestinal tract are also discovered incidentally in most cases, and when they produce symptoms in all likelihood metastases have already occurred. The symptoms most often produced are those of intestinal obstruction which is usually the result not of the size of the tumor but of the kinking of the bowel

which it causes. Other symptoms include nonspecific bowel disturbances or symptoms suggestive of far advanced cancer. Sometimes gastrointestinal bleeding may be the presenting complaint.

The most definite signs and symptoms leading to a preoperative suspicion of carcinoid were described in 1953 by Isler and Hedinger.[8] These signs and symptoms are now known as the "carcinoid syndrome". The carcinoid syndrome is a rather bizarre clinical picture resulting from the effects of a chemical, serotonin (enteramine, 5 hydroxytryptamine), secreted by some of these tumors. This intriguing syndrome has been widely publicized since first described, and tests [11,14,19] have been devised for measuring the excretory product, 5 hydroxyindoleacetic acid, (5 HIAA) in the urine. It was first described as accompanying a carcinoid of the small intestine with metastasis to the liver. Apparently metastases or at least a fairly large tumor mass is necessary before enough of the chemical is secreted to cause symptoms. Practical use could be made of this fact by periodically testing the urine for 5 HIAA following resection of a carcinoid. If positive, the test would indicate that in all likelihood metastasis had occurred.

There are a large number of articles written about serotonin and a lot of experimentation has been done on this chemical but much information is still lacking. Of the many animal tissues tested it has been found in highest concentration in the gastrointestinal tract where it is localized in the enterochromaffin (chromo-argentaffin) cells.[20] It is known to exist in relatively high concentrations in blood platelets and has been demonstrated in lung tissue, in mast cells of the skin, and in the brain. Its physiological significance in these different tissues has not been completely elucidated though many theories have been propounded. Some think it is at least partially responsible for the development of allergic symptoms. The function of serotonin in the brain and the possibility of its importance in the causation of mental disturbances has stimulated much research. The theory held by some that the substance does not easily pass the blood brain barrier is given as the reason for lack of symptoms referable to the central nervous system in the "carcinoid syndrome". Serotonin has been found in high concentrations in carcinoids, and when it is injected intravenously many of the signs and symptoms of the syndrome are reproduced. There is a small amount normally present in the blood, but, it is mainly trapped within the platelets. Small amounts (2 to 9 mg./24 hrs.) [11] of its end product, 5 HIAA, may be found in the urine of normal individuals, and the amount in the urine varies with a person's intake of tryptophan.

The characteristic findings of "carcinoid syndrome" include vasomotor disturbances, intestinal hypermotility, bronchoconstriction, cardiac involvement (endocardial fibrosis and valvular deformities), absence of hypertension, prolonged clinical course (as long as thirteen years) [17], and a large nodular liver when metastasis has occurred to that organ. Symptoms may include sudden flushing of the skin, an unusual type of patchily distributed changing cyanosis, abdominal cramps, diarrhea, vomiting, cough, dyspnea and wheezing. This clinical picture is not common; to my knowledge no reports have been presented as yet which give any accurate figure on its incidence. Kevorkian [9] states that 1 of his 126 carcinoid cases presented the "carcinoid syndrome", but says that he made no attempt to evaluate his cases for the presence of this syndrome.

Treatment of carcinoids is surgical extirpation of the lesion with a margin of normal tissue to insure against local recurrence and metastases. Simple appendectomy is sufficient when the tumor is in that organ. When the primary is in the rectum and consists of small (less than 2 cms.) submucosal nodule local resection through the proctoscope with fulguration of the base has been deemed adequate.[4] Primaries elsewhere should be subjected to segmental resection. At the time of surgery, if there are small resectable metastases, these should be removed as well as the primary. Although this approach may appear unconventional, patients have been

known to survive for years after such surgery, and even after resection of the primary when large nonresectable liver metastases were found. In this connection it is important for the surgeon to get a frozen section if he has any reason to suspect a carcinoid since a case otherwise judged inoperable may not be inoperable if the tumor is a carcinoid.

The prognosis of carcinoids in general is fairly good and when the primary lesion is in the appendix it is excellent. These neoplasms usually grow slowly and a number of patients have survived for years even after detection of metastases. On the other hand, in some cases the involvement is widespread when the patient is first seen and death may follow in a very short time. In spite of the voluminous literature on this subject a search for data on the 5 year survival rate of patients with carcinoids failed to reveal any adequate studies on this question.

Case Reports

All of the following cases except No. 7 have been selected from carcinoids encountered in a private practice of pathology during the past three years. No attempt, therefore, has been made to report all such cases presented for examination during this time. These cases were picked as more or less typical examples of carcinoids, and, they illustrate facts presented above concerning location, age and sex of occurrence, gross and histological appearances, metastases, and clinical picture.

Case No. 1.—Carcinoid of appendix without inflammation.

Clinical: An adult white female was admitted to the hospital with a clinical diagnosis of acute appendicitis; appendectomy was performed.

Pathology: Gross: The specimen consisted of a normal size appendix with bulbous, yellow distal end. The distal end on cut sections showed obliteration of the lumen by homogeneous, bright yellow tumor tissue. Microscopic: Carcinoid of distal end of appendix. Neoplastic cells extend through all coats of the appendix. No evidence of active inflammation.

This is an example of the typical appearance of a carcinoid in its most frequent location and typical also is the lack of inflammation. The sex of the patient conforms with the sex of greatest incidence.

Case No. 2.—Carcinoid of appendix with acute inflammation.

Clinical: A 69 year old white female was admitted to the hospital with the clinical diagnosis of acute appendicitis; appendectomy was performed.

Pathology: Gross: The specimen was a diffusely enlarged appendix with purulent exudate on the serosa and within the lumen. No tumor mass was identified grossly. Microscopic: Acute suppurative appendicitis with tiny submucosal carcinoid in distal end.

In this case though not conclusive the findings suggest that the carcinoid was an incidental occurrence. Because of its location and small size it seems likely that it had nothing to do with the causation of symptoms. In addition, the case brings out the fact that elderly people also have appendiceal carcinoids.

Case No. 3.—Rectal carcinoid

Clinical: A 46 year old colored female was found to have a secondary anemia of unexplained etiology. Stools were positive for occult blood, and, proctoscopy was performed to rule out a rectal or sigmoid lesion as the source of blood loss. At proctoscopy the only lesion noted was a small nodule in the submucosa of the rectum. This was removed and submitted for examination.

Pathology: Gross: An 8 mm., hemispherical, rubbery grayish white nodule was received. Microscopic: Carcinoid of rectum lying within submucosa, involving mucosa in several tiny areas and extending to margins and base of excised tissue.

Comment: Wider local excision was recommended.

Follow-up: At repeat proctoscopic examination the area was healed and the exact site of the lesion could not be detected. No more tissue was removed. Now, five months later, the patient is still slightly anemic and no definite etiology has been discovered. There are no symptoms referable to the bowel.

Case No. 4.—Rectal carcinoid

Clinical: A 60 year old female nineteen months previously had a segmental resection of the sigmoid colon for multiple adenomatous polyps, one of which showed adenocarcinoma. During routine proctoscopic check-up a small submucosal nodule was noted in the rectum. It was removed locally and submitted for examination.

Pathology: Gross: A 1 cm. soft, tan nodule was received in two parts. Microscopic: Carcinoid of rectum lying within submucosa and extending to margin and base of excised tissue.

Comment: Wider local excision was recommended.

Follow-up: Repeat proctoscopic exam on this case also failed to reveal the exact site of the lesion and no more tissue was taken. Now, five months later, she has no symptoms referable to the bowel and the urine is negative for 5HIAA.

These two cases illustrate the most common way in which a carcinoid is detected in the rectum. In both cases the lesion was an incidental finding. The gross appearance was typical of carcinoids of the rectum, and microscopically they showed the festooned ribbons of cells, as described by Stout.[16] Another noteworthy point is the fact that both patients were females past 40 years of age as is most common for rectal carcinoids. A feature of special interest in case No. 4 is the fact that the carcinoid occurred as a second primary. Pearson and Fitzgerald [12] found that 40 per cent of 29 carcinoid cases seen at autopsy had a second primary. Contrasted to this, Warren and Gates [21] report that only 1.84 to 3.7 per cent of all cancer cases have two different primaries. The significance of Pearson and Fitzgerald's finding must await further study.

Case No. 5.—Cecal carcinoid

Clinical: An 80 year old colored female was admitted to the hospital with symptoms of acute intestinal obstruction. Past history revealed that for the previous three years she had intermittent bouts of severe abdominal cramps with diarrhea, weakness and excessive perspiration, for which no definite cause could ever be demonstrated. A mass was palpable in the right lower quadrant. At operation a mass was noted in the cecal wall involving serosal fat in the region of the ileocecal valve. The surgeon resected the terminal ileum, cecum, and appendix, and part of the ascending colon.

Pathology: Gross: 25 cms. of distal ileum with adjoining cecum, appendix, and 12 cms. of ascending colon were received. The ileum was dilated. In the cecal wall impinging on the ileocecal valve there was a 2.5 cm., partially calcified, pinkish brown, soft nodule which lay within the submucosa and extended through the muscle wall of the bowel into the serosal fat involving the ileocolic mesentery. The appendix was not remarkable. Microscopic: Carcinoid of cecum extending through muscle wall into serosal fat and invading a regional node.

Follow-up: The patient was discharged one week later after an uneventful postoperative course and has been asymptomatic during the following 10 months. Qualitative examination of the urine for 5HIAA was negative when performed at weekly intervals for three weeks during the ninth month after operation.

This case had intestinal obstruction which is the most common picture for a patient to present when symptoms are produced by an extra-appendiceal carcinoid. As is usually the case when obstruction occurs, her tumor had already metastasized. Also, the patient was elderly as is most often true in malignant carcinoid cases. There is no way of being certain that this patient had the "carcinoid syndrome" but her history of unexplained bouts of severe cramping and diarrhea with prostration certainly suggest the possibility of a serotonin effect. These episodes could have been the result of recurrent bouts of partial intestinal obstruction but the clinical picture was not entirely typical of such prior to her last admission. The presence of calcium in the carcinoid of this patient is certainly an unusual finding, and, such has not to my knowledge been previously reported.

Case No. 6.—Ileal carcinoid

Clinical: A 56 year old white female presented herself with pain in the right lower quadrant and was found to have blood in her stool. Radiologic examinations including gastrointestinal series and barium enema, suggested the presence of a tumor in the ileocecal region. Proctoscopy was negative. Past history revealed that the patient four years previously had an appendectomy and hysterectomy. At surgery the terminal ileum, cecum, and portion of ascending colon were removed.

Pathology: Gross: A segment of ileum 15 cms. in length with cecum and ascending colon 11 cms. in length was received. In the ileum, 2 cms. from the ileocecal valve there was a firm, bright yellow submucosal nodule 1.3 cms. in diameter. This yellow tissue infiltrated through the muscle wall into the serosal fat and into a regional lymph node. As an additional finding there was a submucosal lipomatoid mass 2.5 cms. in greatest dimension at the ileocecal valve which formed the head of a prolapse into the cecum. Microscopic: Carcinoid of ileum invading through muscle wall into serosal fat and into lymphatic channels. Metastasis to 1 regional lymph node.

Follow-up: Three months after this operation the patient developed bleeding from the rectum and proctoscopy revealed a fungating lesion of the rectum 13 cms. from the anus. A segmental resection of the rectosigmoid was performed and the pathology report was "Adenocarcinoma of the rectum". It has only been two weeks now since this

last operation, and, her course during this very short time has been uneventful.

This case again illustrates that when symptoms are present extra-appendiceal carcinoids are usually malignant. Her lesion was a very typical bright yellow, submucosal nodule. Probably of most interest in this case, as in Case No. 4, is the presence of a second primary.

Case No. 7.—Carcinoid of colon (autopsy)

Clinical: A 67 year old white male was admitted to the hospital with signs and symptoms of intestinal obstruction eight months prior to final admission. Operation at that time revealed inoperable malignancy of the hepatic flexure with metastasis and direct extension to the liver. Bypass ileotransverse colostomy was performed. On final admission the patient was extremely cachectic and a clinical diagnosis of intestinal obstruction was made. Medical treatment was instituted, and the patient expired two days later.

Pathology: Gross: There was a large, firm, grayish white tumor mass involving the three layers of the hepatic flexure and invading the liver. There were regions of necrosis in the tumor with an area of perforation through it and generalized peritonitis. Metastatic grayish white nodules were noted in the liver, regional lymph nodes, diaphragm, and lungs. The tricuspid valve was thickened. Microscopic: Carcinoid of colon with metastasis to regional lymph nodes, liver, diaphragm and lungs.

Since the diagnosis of carcinoid was not established until the time of autopsy, no studies of the urine for 5 HIAA were performed. A review of the history at this time revealed no symptoms which could have been caused by the secretion of serotonin.

The patient again was elderly, as is usually the case in malignant carcinoids. The primary attained a rather large size and metastasized rather widely emphasizing the fact that colonic carcinoids tend to reach an advanced stage before producing clinical findings. The thickening of the tricuspid valve as reported by others was also seen in this patient. Circulating serotonin has been postulated as causing the valvular thickening. The thickening has been reported as occurring on the right side of the heart only, and this is used as evidence for the theory that serotonin is detoxified in the lungs. The only reported case in which left sided involvement was also present was one in which there was an interventricular septal defect.

Summary

A brief general review concerning carcinoids has been given with a consideration of the origin, location, occurrence, gross and histological appearances, frequency and location of metastases, clinical picture, treatment, and prognosis of these neoplasms. Seven illustrative cases have been presented.

Conclusions

1. Carcinoids are low grade malignancies whether or not metastases are present.

2. These neoplasms are most common in the appendix but may occur anywhere in the gastrointestinal tract except the esophagus, and in addition, have been found in the mesentery, gallbladder, teratoma of the ovary, and as the so-called carcinoid type of bronchial adenoma. Next to the appendix in frequency of occurrence are primaries in the ileum, then rectum, and then colon.

3. The patient's presenting symptoms, the size, and the location of the lesion are more dependable criteria on which to base prognosis than is the histological pattern of the neoplasm.

4. When extra-appendiceal, if the carcinoid produces symptoms it is more likely to be accompanied by metastases than if found incidentally (like most malignancies).

5. The carcinoid syndrome is a well established entity and its presence depends on the output of serotonin by the carcinoid. The end product of serotonin, 5 hydroxyindoleacetic acid, can be tested for in the urine.

6. The treatment of carcinoids is surgical.

7. The prognosis without metastasis is excellent but with metastases must be guarded.

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Medical Board, and Laws Governing the Practice of Medicine in the State of Louisiana, in 1844

Among the laws governing the practice of medicine in Louisiana, in 1844, the New Orleans Medical & Surgical Journal cites an "act of the Legislative Council and House of Representatives of the Territory of Orleans, passed and approved March the 23rd, 1808. This act prohibited any person or persons from presuming to practice Physic, Surgery, or the profession of an Apothecary, in the Territory of Orleans, without first exhibiting evidences of competency, by producing a diploma from some respectable University or other Medical School, in which he may have pursued his studies. The Candidate was requested to exhibit his diploma to the Mayor of the City of New Orleans, who was authorized to select four Physicians, or as many Surgeons of the City, distinguished for their literary and scientific attainments, who should examine the candidate publicly and grant him a certificate, if found duly qualified, signed by the four examiners and the Mayor, who should cause the seal of the City to be affixed to said certificate."

Vesprin in The Treatment of Chronic Mental Illness

• Results of trial of a new drug on 100 patients, chosen at random in a mental hospital from schizophrenic and geriatric groups, are reported in detail.

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CHEMOTHERAPY of mental illness has received tremendous impetus in recent years because of the variety and number of drugs introduced which appear useful for the treatment of psychotic patients. The phenothiazine derivatives have been of particular interest because of their wide range of pharmacalogic activity [1-5] and their reported beneficial effects on psychotic symptoms.[3-5] Chlorpromazine is the most familiar of these compounds and it has been widely used in the treatment of psychotic states.[6-7] Recently, a number of newer phenothiazine compounds have been reported to effect the resolution of delirium, hallucinations, and delusions in a significant number of patients.[8] One of these new compounds is Vesprin, or trifluprozine.

Vesprin has been under study at the East Louisiana State Hospital since July 26, 1957. Up until the completion of this study, 100 patients were treated with this agent. The results of the study indicate that Vesprin is valuable, particularly in the schizophrenic patient, even the chronic case.

The experience with Vesprin at this institution is briefly described in this report.

Methods and Materials

The Patients

The patients included in this study were chosen at random from one unit of the hospital. Schizophrenia was the diagnosis in 49 younger individuals among 100 patients studied. Senile psychosis or chronic brain syndrome associated with cerebral arteriosclerosis occurred in the remaining 51 patients, all of whom were over 55 years of age.

All of these patients had been hospitalized for relatively long periods of time (from several months up to forty years). All had received previous psychiatric treatment without improvement. Previous treatments included electro-shock therapy, metrazol therapy and insulin coma treatment, as well as treatment with chlorpromazine and reserpine. No patient was included in the study, however, who had received tranquilizing drugs for one month prior to initiation of treatment with Vesprin. No patient was included who was receiving any kind of medication such as digitalis or insulin.

Procedures

Prior to administration of Vesprin, each patient was interviewed and a pretreatment rating was made of certain personality and mental traits (see below). A complete blood count was also taken and values for serum alkaline phosphatase and serum bilirubin were determined in every case. (Blood values in each of the 100 patients were within normal limits prior to institution of treatment with Vesprin).

After treatment with Vesprin was begun, interviews, always by the same investigators, were conducted with the patients four times a month. During these interviews, ratings were again made of the traits

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selected for evaluation, for each of the four weekly observation periods for every month of treatment. Serologic studies were repeated at six and twelve weeks after medication was started.

The personality and mental traits selected for evaluation and the criteria followed for their rating were:

1. Cooperation—that shown by the patient in following ward routine and general activities of the hospital;
2. Activity—that shown by the patient in caring for his own needs and in participating in ward activities without hyperactivity;
3. Hallucinations—as defined in the usual psychiatric sense;
4. Delusions—as defined in the usual psychiatric sense;
5. Social rating—the sociability of the patient as shown by the absence of withdrawal from contacts and isolation of himself.

Ratings were scored as follows (when compared with pretreatment ratings of each trait).

0 = drug discontinued for any reason
1 = no improvement
2 = slightly improved
3 = improved
4 = markedly improved

At the completion of the study period (5½ months) a final tally was made of the number of rating periods during which improvement had occurred, regardless of whether or not the patient had been treated for the full period of study.

Medication

Vesprin was administered orally as a tablet and/or intramuscularly as a solution throughout the study period. Originally, the dosage for the schizophrenic group (Group 1) was 50 milligrams, orally, three times a day; and that for the geriatric group (Group 2) was 10 milligrams, orally, three times a day. Doses were adjusted during the course of study according to patient response. Total daily doses were no less than 30 milligrams and no more than 300 milligrams. During the initial six weeks of the study, the maximum daily dose was 150 milligrams.

Vesprin was discontinued in any patient exhibiting side effects lasting for more than twenty-four to forty-eight hours.

Results

Improvement in the traits evaluated in the schizophrenic patients in (Group 1) and in the geriatric group (Group 2), with Vesprin, are summarized in Tables 1 and 2, respectively.

The number of patients from Group 1 showing improvement in each category is statisically significant at either the 1 per cent or the 5 per cent level.* Group 2 showed less favorable results. While relatively few patients of the total series showed more than slight improvement during any one rating period (of one week), no patient showing improvement failed to hold his gain while on medication. Some patients who were taken off medication, continued to hold their gains after medication had ceased. (One patient not included in this series improved during treatment with Vesprin and showed further marked improvement after Vesprin was withdrawn because of the development of extrapyramidal symptoms).

Seventeen of the 49 schizophrenic patients (Group 1) and 11 of the 51 geriatric patients (Group 2) completed the entire treatment program of over five months. Whereas only 3 of those 17 from the schizophrenic group failed to show any improvement, 11 geriatric patients treated for the full course of study did not improve during any observation period. Roughly half of the improved ratings scored for the schizophrenic group as a whole occurred in the 17 patients treated full time (Tables 1 and 3). There was no consistent corresponding ratio of improved ratings for the geriatric patients (Tables 2 and 4).

Serologic determinations:

The serological determinations at six and twelve weeks after the beginning of treatment revealed no blood dyscrasias and no increase in serum alkaline phosphatase levels above the normal range (1 to 4 Bodansky units). Serum bilirubin levels

* As described by Guilford (9).

TABLE 1
SUMMARY OF RESULTS WITH VESPRIN IN GROUP 1 (49 SCHIZOPHRENICS *)

Trait Evaluated	No. of Patients Showing Improvement For 1 period	For 2 periods	For 3 or more periods	Total No. Improved	No. of Unimproved Patients
Cooperation	14	5	6	25 (51%)	20
Activity	18	6	3	27 (55%)	18
Hallucinations	5	2	1	8 (16%)	37
Delusions	5	2	1	8 (16%)	37
Social	14	4	2	20 (40%)	25

* Drug was discontinued too soon in 4 patients to permit any rating.

TABLE 2
SUMMARY OF RESULTS WITH VESPRIN IN GROUP 2 (51 GERIATRIC PATIENTS *)

Trait Evaluated	No. of Patients Showing Improvement For 1 period	For 2 periods	For 3 or more periods	Total No. Improved	No. of Unimproved Patients
Cooperation	1	0	3	4 (8%)	41 (80)
Activity	1	2	3	6 (11%)	39 (76)
Hallucinations	0	0	0	0 (0%)	45 (88)
Delusions	0	0	0	0 (0%)	45 (88)
Social	2	0	1	3 (5%)	42 (82)

* Drug was discontinued in 6 patients before any rating was made.

TABLE 3
SUMMARY OF RESULTS WITH VESPRIN IN 17 PATIENTS FROM GROUP 1 TREATED FOR THE ENTIRE PERIOD OF STUDY (5½ MONTHS)

Trait Evaluated	No. of Patients Showing Improvement For 1 period	For 2 periods	For 3 or more periods	Total No. Improved	No. of Unimproved Patients
Cooperation	7	2	4	13	4
Activity	8	3	3	14	3
Hallucinations	3	0	1	4	13
Delusions	2	1	1	4	13
Social	7	2	2	11	6

TABLE 4
SUMMARY OF RESULTS WITH VESPRIN IN 11 PATIENTS FROM GROUP 2 TREATED FOR THE ENTIRE PERIOD (5½ MONTHS)

Trait Evaluated	No. of Patients Improved For 1 period	For 2 periods	For 3 periods	Total No. Improved	No. Unimproved
Cooperation	0	0	2	2	9
Activity	0	0	2	2	9
Hallucinations	0	0	0	0	11
Delusions	0	0	0	0	11
Social	2	0	0	2	9

stayed within normal range, except in one patient in whom the reading at six weeks was 2.9 mg./100 ml. (about three times normal). Despite this increase in serum bilirubin, there were no clinical signs of jaundice in this patient and no accompanying rise in serum alkaline phosphatase. Nonetheless, Vesprin was withdrawn immediately.

Side Effects

Side effects developed in more than half of the patients. (See Table 5).

TABLE 5
INCIDENCE OF SIDE REACTIONS

Side Reaction	Incidence of Occurrence Group 1		Group 2	
Lethargy	13	26%	12	24%
Debility and weight loss	7	14%	11	22%
Excessive perspiration	1	2%	1	2%
Muscle cramps	4	8%	0	0
Edema	2	4%	1	2%
Parkinsonianism	0	0	0	0
Extrapyramidal	2	4%	1	2%
Serum bilirubin elevated	1	2%	0	0
Convulsions	0	0	1	2%
Photesensitivity	0	0	0	0
Clinical jaundice	0	0	0	0
Serum alkaline phosphatase elevated	0	0	0	0
Dyscrasias	0	0	0	0

In some cases, particularly in the elderly group, these effects appeared on a dosage of 30 milligrams; whereas in other patients receiving 300 milligrams there were no reactions. When side effects persisted for twenty-four to forty-eight hours, medication was withdrawn. More than one side effect was present in a number of patients. The principal reasons for discontinuance of treatment are given in Table 6. Medication was withdrawn in 8 cases in Group 1, and in 17 cases in Group 2, for reasons unrelated to Vesprin treatment (Table 6).

TABLE 6
REASONS FOR DISCONTINUING VESPRIN

Prime Reason for Withdrawal	Group 1	Group 2
Convulsions	0	1
Lethargy	11	12
Muscle cramps	4	0
Debility and weight loss	6	10
Excessive perspiration	1	0
Edema	1	1
Serum bilirubin elevated	1	0
Extrapyramidal symptoms	1	0
Physical illness (unrelated) such as suspected tuberculosis, surgery, ulcers, severe gastritis	5	8
Furlough	1	5
Family request	1	0
Refused medication	1	0
Transferred	0	2

With the exception of one patient, there were no signs of convulsive behavior. Reactions such as hypotension, photosensitivity and blood dyscrasias did not occur in any case and there were no clinical signs of jaundice.

Discussion

On the basis of the finds in this study, Vesprin is apparently of value in the treatment of chronically ill schizophrenic patients. The patients included in this series had failed to respond to any method of therapy previously given, including treatment with chlorpromazine and/or reserpine, electro-shock therapy, insulin coma and metrazol therapy, yet a significant number of them improved during treatment with Vesprin. (In some instances they improved to such an extent that they might have been released from the hospital had there been family or other resources available to permit such release). Furthermore, the dosage of Vesprin required for effective treatment was smaller than that of promazine, chlorpromazine and reserpine, previously employed at this institution.

The absence of serious toxic reactions such as jaundice and agranulocytosis is particularly notworthy, as is the absence of hypotension. The effectiveness of Vesprin in small dosages and its lack of serious toxicity would indicate that it is suitable for prolonged treatment, with proper adjustment of dosage to minimize the occurrence of lethargy, extrapyramidal symptoms, and such other side effects as have been encountered in its use.

The results of this study are less encouraging for the use of Vesprin in the treatment of the geriatric patient with senile psychosis or chronic brain syndrome associated with cerebral arteriosclerosis.

Summary

One hundred psychotic patients have been treated with Vesprin in total daily doses ranging from 30 to 300 milligrams over a period of five and a half months. Of the 100 individuals treated, 49 were schizophrenic patients and 51 were geriatric patients with senile psychosis and organic brain syndrome. A significant number of schizophrenic patients improved in the traits evaluated during treatment; that is, in cooperation, activity, hallucinations, delusions, and social behavior. Less encouraging results were achieved in geriatric patients.

No serious side effects such as agranu-

locytosis or jaundice occurred. Hypotension or photosensitivity did not develop. Convulsive behavior was observed in one patient. An elevated serum bilirubin was determined in one case, but this was unaccompanied by any rise in serum alkaline phosphatase or clinical signs of jaundice. Other side effects such as lethargy, extrapyramidal signs, weakness, weight loss, and muscle cramps were seen.

It is concluded that Vesprin, when administered under proper supervision, is a relatively safe therapeutic agent for use in mentally ill patients and that it is particularly valuable in younger schizophrenic patients, even those considered to be chronically ill.

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State of Health

From the July 1944 issue of the N.O.M. & S.J.:

"The health of our city has been as good as usual, since the date of our last number. The customary diseases of the season, such as Cholera-Morbus, Diarrhea, Dysentery, Remittent and Intermittent Fever, and Whooping Cough, have prevailed, but not to an extraordinary extent. Upon inquiry of many physicians who command a large business, there appears to have been but little doing in private practice. The admissions into the Charity Hospital have been pretty numerous, but these are derived chiefly from the followers of the sea and the river, who being unacclimated, are apt to suffer from the early appearance of warm weather. Their exposure to the sun on the Levee probably renders them more liable to get sick, than the mechanics and shop-keepers of the city. The diseases for which there have been the greatest number of admissions into the Hospital were the following, in the order named, viz:— Intermittent fever, Rheumatism, Dysentery, Diarrhea, Ulcer, Contusion, Syphilis, Gonorrhea, Gastritis, Phthisis, Bronchitis.

"The weather has been for the most part warm and showery. Since the first of July it has been exceedingly hot and sultry, the thermometer frequently reaching ninety degrees in the shade, which is very uncommon in this place."

Shall we blame the change in our July weather on the atom bomb?

Cytomegalic Inclusion Disease: Another Cause For Neonatal Jaundice

• An uncommon disease, with symptamatalogy resembling that af taxaplasmasis, in a newbarn infant, is the first case ta be reparted fram Lauisiana.

A. F. SANDERS, M.D.
D. W. VAN GELDER, M.D.*
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IN the past decade there have been a number of patients with generalized cytomegalic inclusion disease reported from several sections of this country. This disease, although uncommon, is often associated with jaundice, hepatosplenomegaly, cerebral calcifications and hemorrhagic manifestations in the newly born infant. The case history recorded here is of interest because it is the first reported from Louisiana.

Case Report

Clinical and Laboratory Observations: E. C., a female weighing 2612 grams (5.7 lbs.), was a product of a normal spontaneous labor at approximately 38 weeks' gestation on April 6, 1958, at Our Lady of the Lake Hospital, Baton Rouge, Louisiana. Pregnancy was uneventful except for a mild influenzal-like illness two months prior to delivery. The mother was a healthy 22 year old white female who had one previous pregnancy terminating in a normal full term male infant. Prenatal serologic tests for syphilis were negative.

Immediately after birth the infant was noted to have a dusky hue with scaling of the skin. A fine tremor was observed in all extremities. The only medication given was one milligram of Vitamin K (synkamin) shortly after birth.

Sixteen hours after birth icterus developed with a total serum bilirubin level of 20.5 milligrams per cent. Peripheral blood picture was normal. Two hours later extensive pectechiae and ecchymoses were noted in addition to hepatosplenomegaly. Fresh hemorrhages were also observed in the anterior chambers of the eyes. No evidence of isoimmunization was demonstrable; infant and mother were Group B, Rh positive and the Coombs' test was negative. Bleeding and coagulation times were normal, platelet count 100,000 per cubic millimeter (although the accuracy of the count was in question because of the concentration of the blood), and the prothrombin-time was less than 10 per cent of normal. There was 2 plus albuminuria.

Initially erythroblastosis was considered as a possibility to account for the icterus, hepatosplenomegaly, and bleeding tendency. When the laboratory data failed to support this diagnosis congenital thrombocytopenic purpura was considered, although this is not ordinarily associated with jaundice. The icterus was then considered to be due to one of the following diseases: toxoplasmosis, cytomegalic inclusion disease, neonatal hepatitis, sepsis, or hemorrhagic disease.

At thirty hours of age serum bilirubin remained 20 milligrams per cent, blood culture was sterile, prothrombin activity had increased to 40 per cent of normal (after a second dose of one milligram of Vitamin K), and prothrombin consumption time was 125 seconds. Ophthalmological consultation * confirmed the presence of anterior chamber hemorrhages. The fundi appeared normal although it was impossible to examine adequately the entire retina because of the hemorrhages. Radiographs of the skull revealed faint periventricular calcifications. Spinal fluid was xanthochromic with 5600 crenated R.B.C. per ml^3 and 128 milligrams per cent of protein; no toxoplasma organisms were demonstrable in the sediment. Both the patient's and the mother's Sabin-Feldman tests † for toxoplasmosis were negative. Stained urinary sediment obtained at thirty-two hours of age was subsequently reported as showing the presence of epithelial inclusion bodies. Mother's saliva was stained, but no inclusion bodies were seen.

The infant was given penicillin, chloramphenicol

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* Ophthalmoscopic examination done by Dr. A. B. Cross, Baton Rouge, La.

† Performed at Communicable Disease Center, U.S.P.H.S., Chamblee, Ga.

col, and cortisone, but therapy apparently had no influence on the course of the disease. No new ecchymoses appeared and those present were gradually subsiding. By the morning of the third day of life ecchymoses were subsiding and the infant's condition appeared improved but during the day her condition deteriorated. She became listless, cyanotic, refused oral feedings and expired 62 hours after birth.

Pathological Observations: Autopsy ‡ was performed one hour after death. The body weighed 2,650 grams. The skin was icteric, dry and scaly. The liver and spleen were enlarged and congested weighing 186 grams and 21 grams respectively. The heart was flabby and weighed 25 grams. In the lungs there was minimal focal atelectasis. Focal areas of calcification were present through the mid brain and basal ganglia along the line of the lateral ventricles. A fibrinous type of exudate was found over the basal areas of the brain. There were no other gross abnormalities.

Microscopic examination of the tissues revealed a few inclusion bodies in bronchiolar epithelial cells. Round cell infiltration was present in the liver with evidence of chronic hepatitis and biliary duct obstruction. Cytomegalic inclusions were scattered diffusely through ductal epithelial cells. Kidneys demonstrated focal areas of chronic inflammatory changes with numerous cytomegalic inclusions in tubular cells. The brain contained scattered focal necrotic areas with calcification adjacent to the ventricles; a few inclusion bodies were seen in these areas.

Anatomic diagnoses were as follows: cytomegalic inclusion disease involving salivary glands, pancreas, brain, kidneys and liver; chronic passive congestion of kidneys, spleen and liver; toxic myocarditis and necrosis, with calcific deposits in brain.

Discussion

A virus has been isolated from urine, aqueous humor, and liver biopsy specimens in patients with generalized cytomegalic inclusion cell disease.[1] Neutralizing antibodies to the virus have been obtained from pooled human serum [1a] and complement fixing antibodies have been observed in a high percentage of adults.[2] Smith [3] has isolated an intranuclear inclusion-forming virus from cytomegalic inclusion disease (generalized salivary gland virus disease) which is similar to the human salivary gland virus. This virus is widespread and may produce many inapparent infections. Rowe [4] and associates were able to isolate human salivary gland virus from mouth swabs of 13 of 21 apparently well young children with serum complement-fixing antibodies, and from the urine of 7 of 8 of these virus-positive children, indicating that dissemination of the virus beyond the salivary glands occurs frequently in children without symptomatic cytomegalic inclusion disease. They demonstrated viruses in some children for as long as twenty-four months after antibody was known to be present, but failed to recover virus from the mouths of 26 children without complement-fixing antibody. Sera from 50 newly born infants and 17 adults with complement-fixing antibody were negative for salivary gland virus. The antibodies present in the neonates were probably passively acquired from mothers. Farber and Wolbach in 1932 [5] reported intranuclear and cytoplasmic inclusions in the submaxillary gland in 12 per cent of a series of routine autopsies.

Cytomegalic inclusion cell disease has been reported frequently from southern areas of the United States. Fifty-two (52) of a total of eighty-nine (89) patients reported up to 1950 were from the St. Louis area.[6] Despite such proximity our patient is the first reported from Louisiana. A cursory survey disclosed another questionable case in a two month old colored infant from an adjacent parish (West Baton Rouge). This infant was admitted to Charity Hospital, New Orleans, and died as a result of diarrhea with dehydration. Intranuclear inclusions were noted in bronchial cells at autopsy. The anatomic diagnosis was bronchopneumonia with cytomegalic inclusion disease considered as a possibility.

Just as in many other infections, such as Coxsackie viremia, rubella and toxoplasmosis, the infective virus in cytomegalic inclusion disease is apparently much more lethal to the immature tissue of neonates than to older individuals. Neonatal generalized cytomegalic inclusion disease, with its devastating effects, presumably results from unrecognized infection of the pregnant mother with transplacental migration of the virus. In the neonatal period the disease occurs more frequently

‡ Dr. A. L. McQuown, Baton Rouge, Louisiana.

in premature infants and is associated with an extremely high mortality. Markham [7] has demonstrated a much greater susceptibility of the guinea pig fetuses than young term guinea pigs to the salivary gland virus of guinea pigs.

In older infants cytomegalic inclusion disease is associated with diverse clinical histories or often with another illness, such as severe diarrhea or interstitial pneumonia. Rarely, disseminated nuclear inclusions are observed in adults from generalized salivary gland virus infections. These infections are usually terminal phenomena and may represent viral dissemination as a result of debilitation from some other primary disease.

Characteristically generalized cytomegalic inclusion disease occurs in premature infants and is characterized by jaundice, thrombopenia, purpura, hemolytic anemia, hepatosplenomegaly, cerebral calcifications and signs of central nervous system involvement. Chorioretinitis has been reported occasionally. Since this entire symptomatology can be produced by toxoplasmosis, a negative Sabin-Feldman dye test should be obtained to rule out toxoplasma infection. Presence of inclusion bodies in the urinary sediment is generally accepted as confirmatory evidence of inclusion cell disease.

Morphologically the disease is characterized by specific cellular gigantism with cells up to 35 microns in diameter. The nuclear inclusions are large, granular, acidophilic, or metachromatic usually single and surrounded by a halo. The cytoplasmic inclusions are basophilic, numerous, and often localized in one position of the cell. These inclusion-containing cells tend to occur in the epithelial-lined spaces of various organs such as kidneys, liver, lung and pancreas. Examination of the stained urinary sediment is positive when the characteristic cells are shed from the renal tubules. During the course of the disease, however, these cells may be shed irregularly and the sediment at times may be negative. It has been suggested that gastric washings should also be examined when the disease is suspected since the stomach may contain cells from the salivary glands, lung or upper gastrointestinal tract.[8]

Radiographically cerebral calcifications may be seen along the lateral ventricles. This periventricular patterning is typical of cytomegalic inclusion disease, differing from the diffuse calcific deposits throughout the brain seen with toxoplasmosis. Darnelle [9] suggests that the deposits of calcium along the lateral ventricles may reflect the intrauterine age at which the disease occurred. Periventricular matrix is still active in late intrauterine life; whereas the remaining ventrex reaches maturity by the third intrauterine month. Mercer [10] has noted that there may be sclerosis of the shafts of the long bones with diminished density at their ends. Neuhauser [11] states, however, that this type of osteosclerosis can occur in any premature infant and is not specific for inclusion cell disease.

Margileth [12] suggests the importance of making a diagnosis of generalized cytomegalic inclusion disease early in life because elevated serum biliruben levels are frequently present and brain damage from kernicterus may be prevented by exchange transfusions. Mothers who have given birth to one infant with generalized cytomegalic inclusion disease are likely to have normal infants in subsequent pregnancies. No instances of successive pregnancies terminating in infants with the disease have been reported.[13]

Summary

A small infant developed jaundice, thrombopenia, ecchymoses, hepatomegaly, splenomegaly and signs of central nervous system irritation in the early neonatal period. Studies revealed no sepsis or isoimmunization. Radiographs demonstrated intercranial calcifications distributed along the lateral ventricular system. Examination of the stained urinary sediment revealed typical inclusions. Post mortem examination confirmed the presence of this disease.

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Historical Notes

Even in July 1844, the editors of medical journals had the same difficulties to surmount as exist today. We quote:

"On sending forth our second number, we find ourselves still somewhat in arrear of our time, but it has been unavoidable. We are satisfied our readers will not utter a word of complaint, if they form any just conception of the difficulties with which we have to contend. We must be permitted to express our gratification at the kindness and favor with which our first number has been received, judging from the flattering notices elicited from news paper press in this and other places, and the numerous congratulations we have received from correspondents throughout the country. We can assure our subscribers and the entire profession in the Southwest, that if they wish to see a Medical Jounal maintained in this place, they must not withhold their prompt and liberal support."

There is no need to put the last line in Italics!

Hydrocele of the Canal of Nuck; Report of Case

• A review of the literature indicates that no more than 350 cases of this type of hydrocele have been recorded. The author explains the probable reasons for this paucity of reports.

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CYSTS in or about the round ligament are very rare, as a review of the literature indicates. Hence, because of the paucity of reported cases and the lack of enough awareness of the condition, this case is being reported.

The largest number of cases, most recently collected, were described by Counsellor and Black of the Mayo Clinic.[1] The first comprehensive review of the literature was an analysis by Coley in 1892,[2] who included a report of 30 cases. A review of all the available literature indicates that no more than 350 cases at most have ever been collected.

Description

Cysts in the inguinal region of the female, in proximity to the round ligament, may arise in the canal of Nuck or about the exterior of the round ligament. The hydrocele is an exact counterpart of the encysted hydrocele in the male. The canal of Nuck corresponds to the vaginal process of the peritoneum in the male. These cysts are lined by cells similar to that found in the peritoneum and therefore are secretory. They may be found as accumulations of fluid anywhere along the round ligament, as discreet and isolated. However, they may also be seen as continuous with the peritoneum and in this instance the fluid accumulation may be so great that the cyst extends upwards retroperitoneally or downward into the labia major.

Classification of Types

The commonest type of cyst in this region in the female is the encysted isolated accumulation of fluid in the canal of Nuck corresponding to the encysted hydrocele in the male spermatic cord. In this instance, there is no peritoneal communication, and the cyst is intimately adherent to the round ligament as it rests in the inguinal canal. Its immobility in this region may serve to distinguish it from an inguinal hernia.

The next most frequent type corresponds to the congenital hydrocele in the male which communicates with the peritoneal cavity. This type has been described by Coley, but few of this type have been reported in subsequent reviews. The best embryological review of the subject is by Costello and Gilette.[3]

Diagnosis

The most important condition with which hydrocele of the canal of Nuck may be confused is hernia. Actually, were the condition kept in mind, it should be relatively easy to differentiate. The characteristic cystic elastic feeling of the mass, which cannot be replaced within the abdomen, and the constancy of size should be suggestive. Other than hernia, two other conditions, with which it may be confused and which must be excluded, are lipoma and lymph nodes. The lower in the inguinal canal that the mass is found, the more likely it is to be a cyst. In the cases reviewed by the Mayo group, diagnosis was found to be difficult because, as was occasionally the case, the hydrocele was frequently found with hernia and it was the hernia that claimed prior

attention. The hydrocele then becomes an incidental finding. In those rare instances wherein the hydrocele is continuous with the peritoneal cavity, diagnosis then becomes most difficult because the cyst is reducible. Hydrocele of the canal of Nuck may occur on either side and in any position, from the internal to the external ring of the inguinal canal and even into the labia major.

Other conditions with which it may be confused are the rare tumors of the round ligament as reported in the review of the literature by Kershner and Shapiro.[4] Large cysts can be transilluminated.

Report of Case

Sister M. L., colored female, age 47, complained of a lump in the right groin that she thought was moveable. She had no pains at all. The discovery was accidental.

The patient was tall and obese, weighing 188½ pounds, with a moderate panniculus of the lower abdomen. The mass was definitely palpable as a rounded mass in the region of the external inguinal ring on the right side. It measured about 3 cm. in diameter and appeared to be rather superficial. There was some mild degree of tenderness present on palpation. The mass was only slightly moveable. It could not be reduced into the abdomen. No inguinal glands were palpable. She was too obese to make transillumination of the tumor possible. The preoperative diagnosis rested between lipoma and hernia.

At operation, the usual inguinal herniotomy incision was made and upon approaching the tumor, it was found to be cystic. The external oblique muscle and fascia were incised, exposing the entire inguinal canal area. A large cyst, 3 cm. in diameter and attached to the round ligament, was found. It was freed, together with the remnants of the round ligament, and excised. A very small inguinal hernia was also discovered. It was repaired. The closure was otherwise uneventful.

Pathological Report—The cyst was lined with peritoneal type cells. The cyst, because of location, was of the canal of Nuck.

Summary and Conclusions

The frequency of the incidence of hydrocele of the canal of Nuck is unknown. The scarcity of reported cases, even from large clinics, may suggest that few cases are reported because the hernia, when present, enjoys the main attention. When the hydrocele is small or located within the inguinal canal, it presents a diagnostic problem, especially when pain is present, because incarceration of hernia cannot always be excluded. When the cyst is large or the patient not too obese, it is possible to recognize its fluidity by transillumination. Removal of the cyst should be a simple matter, but because of its frequent association with hernia, the surgical procedure should be essentially the same as for inguinal hernia.

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Of Imagination All Compact*

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Lovers and madmen have such seething brains,
Such shaping fantasies, that apprehend
More than cool reason ever comprehends.
The Lunatic, the Lover, and the Poet
Are of imagination all compact:
One sees more devils than vast hell can hold,
That is, the madman: the lover, all as frantic,
Sees Helen's beauty in a brow of Egypt:
The poet's eye, in a fine frenzy rolling,
Doth glance from heaven to earth, from earth to heaven;
And as imagination bodies forth
The forms of things unknown, the poet's pen
Turns them to shapes, and gives to airy nothingness
A local habitation and a name.
Such tricks hath strong imagination,
That, if it would but apprehend some joy,
It comprehends some bringer of that joy;
Or in the night, imagining some fear,
How easy is a bush suppos'd a bear!

SO spoke Duke Theseus in *Midsummer Night's Dream*, long before Freud began the invention of a new language and a new myth by which to express, and, when fortunate, to relax certain tragic human tensions known of old. You, gentlemen, with that new language and new myth, deal much with "strong imagination," and with helping the bewildered to distinguish bush from bear. I am to speak of the influence your language has already exerted upon the creative literature of our day.

I should say at the outset that I have never been psychoanalyzed, nor have I made systematic study of the works of Freud, Jung, Adler, Rank, or Reik. Yet their language and thought-frames have so profoundly affected the literature with which I must deal as a teacher, that I have had to follow at least some of what you have learned.

Before I show you a small sampling of the influence your language has had on the writers of our time, two things should be understood. First, although the writers and you both seek to understand the human psyche, or soul, your purposes differ. Yours is the cure of souls which have been damaged more than have most. You strive to exorcise the neurosis or the psychosis and leave your patient whole, even as the ancients sought to cast out devils. The writer, on the other hand, seeks not to cure but only to understand the terrors and the struggles of the soul and show them to those who will read. He is more interested than are you in the so-called normal than in the abnormal. But you have already taught him that the line between the two is not fixed as firmly as he had once thought and that the understanding of the abnormal is a somewhat direct road to the understanding of the normal. Perhaps none of us will ever decide with assurance whether Hamlet was normal, but most of us will continue to find something of ourselves in him.

The second needful understanding is this: For all your new and useful language, you have not invented quite as much as you have let others believe. You have your new way of speaking, but the stuff

* Presented at the Seventy-eighth Annual Meeting of the Louisiana State Medical Society, in Shreveport, May 6, 1958.

you speak of is the same mixed-up human nature that Sophocles and Saint Paul and Shakespeare, and their fellows were displaying centuries before your Id, Ego, and Super-Ego became linguistic commonplaces. They spoke in different metaphors, but the essence of the speech was the same. From whence came the labels of your "Oedipal feelings" and "Electra complexes" but from the intuitive dramatist of antiquity? It is the Jocasto of Sophocles who says, "But fear not thou touching wedlock with thy mother. Many men ere now have so fared in dreams also." [1] Freud himself noticed that Shakespeare had given his Portia a "Freudian slip" as she betrays her wish for Bassanio:

> One half of me is yours, the other half is yours,
> Mine own, I would say; but if mine, then yours,
> And so all yours.

Had this been written in our time, we would smile with satisfaction at recognizing the Freudian influence, even as we do when Eugene O'Neill in his *Mourning Becomes Electra* makes Lavinia substitute the name of her father, Adam, unconsciously for that of her husband, Peter. What, after all, is Plato's metaphor of the docile white horse, the rebellious black horse, and their driver in the *Phaedrus* but your Ego, Id, and Super-Ego in an earlier version? Or what is Saint Paul's cry, "The evil that I would not, that I do," but the representation of the unsuccessful struggle of Ego and Super-Ego to control Id? Do not Caliban, Ariel, and Prospero in *Tempest* compose the same basic myth? And what is the Calvinist's "Original Sin" but your Id, before you had the word? Although you have invented a language, and a helpful one, you have not invented the life it deals with, and not even a completely new view of that life. When on his seventieth birthday, Freud was called "the discoverer of the unconscious," he meticulously corrected the speaker, saying, "The poets and philosophers before me discovered the unscious. What I discovered was the scientific method by which the unconscious can be studied." [2] And when Thornton Wilder at another time asked Freud why psychoanalysis had appeared relatively so late in human culture, Freud answered, "Yes, but the poets have always known it." [3] So, if I must walk humbly before you who are specialists in a peculiar language and myth, you in turn should walk humbly before the intuitions of the writers upon whom you have built that language and myth, and who have long recognized, though they spoke in different tongues, the importance of the very things which are important to you as you strive to cast out the demons of our time.

And now for the influences which you in turn have upon the writers of our time. I must leave out of account the critics and the poets, not because they are unimportant nor because they are untouched by your psychology, for both the critics and the poets seem more self-consciously touched by it than are others, but only because I lack time and because I know less about them than about the novelists and dramatists.

Despite the inaccuracies one courts by applying characteristic labels to chronological periods and despite the exceptions one must make in applying them, I shall risk three such labels for three periods of the influence of the new depth psychology within my own memory. The first begins roughly with the outbreak of the first world war and lasts to the late twenties of the century. I shall call it the *Period of the Freudian Fad.* The second is the decade of the thirties, which I shall name the *Period of Diverted Attention.* The third includes the forties and fifties. This, I shall call the *Time of Acceptance.*

The Period of the Freudian Fad was a hot hurly-burly of flaming youth living it up in a new sexual freedom which they assumed Freud would approve. He, because he had shared in the removal of the taboos about sexual discussion, was their great prophet, much misunderstood. The voice of such youth was heard best in the work of F. Scott Fitzgerald, especially in *The Great Gatsby,* but more typically, perhaps, in Lewisohn's *The Case of Mr. Crump* or Huneker's *Painted Veils.* Opposing flaming youth and its prophet was an equally intemperate and emotional group. It felt

Freud to be an incarnation of the devil and either panicked into smear words about him or sought to laugh him out of account. In its works, psychoanalysts were either futile comics or pathetic esoterics gone wrong. A smaller group was composed of the few open-minded and thoughtful who took time to study what Freud and his colleagues really meant and then used what they learned to display the complexity of human beings. Here Eugene O'Neill in the theatre and James Joyce in the novel were stars of first magnitude, and Waldo Frank, Floyd Dell, Sherwood Anderson, though of lesser brilliance, were also important.

In the thirties, the Period of Diverted Attention, the same three reactions could still be found, but the heat of battle had passed to other fields. The fanatics were now arguing for or against Marx rather than Freud. With their passionate noisiness turned to other things, the earnest could for a time study, evaluate, and appropriate the new psychological techniques for their work. By the end of the decade, war was crowding the new psychology still further from the center of attention. It was no time to coddle even one's favorite frustration. Action rather than introspection was the need.

O'Neill's *Mourning Becomes Electra,* at the beginning, and Joyce's *Finnegans Wake,* at the end, were perhaps the greatest productions of this period. Both show full awareness of depth psychology, Joyce using it in the dream structure of ambivalent desires and judgments, and O'Neill by emphasizing the continual force of the unconscious. A writer could by this time assume that his more intelligent readers would understand psychological vocabulary and symbols and that they would raise no great hostility. Even in the writings of the lesser lights, the psychoanalyst was less frequently the target for lampoon. The better writers were using his insights straight.

We are now in the Time of Acceptance. Writers of all kinds and qualities are using the concepts, the language, and the symbols of depth psychology as a matter of course. There is still some propaganda, but it is now for the sane application of psychiatric insights to penology and criminal law, as in Myer Levin's *Compulsion* and Traver's *The Anatomy of a Murder.* The psychology itself is rarely in question. Writers make increasing use of the interior monologue, and more and more they report not only the censored public words of their characters but also the currents of uncensored free thought which flow beneath. Joyce's brilliant use of these techniques in *Ulysses* in the mid-twenties is frequently imitated but not yet surpassed. Dreams in novels are multiplying. Although I keep no exact statistics on my casual reading, which includes a good deal of trash, I would guess that two of every three paperback novels outside detective and science-fiction now contain dreams by which the reader is expected to understand something about the wishes and the frustrations of the dreaming character. In works of more serious import, the dream has also come to its own. Joyce's *Finnegans Wake* is written wholly as the free association of a dream. In it the unconscious strives to evade the censor and rise to awareness, but never quite makes it. But the *Wake* is much more than the dream of a fictional individual. Joyce uses also the Jungian concepts of myth and racial memory. *Finnegans Wake* is the troubled dream of mankind rather than the dream of a man. Symbols of Freudian import are also burgeoning. The late Ludwig Lewisohn in his *In a Summer Season* evokes sexual awareness by reference to "green spear-like leaves and bell flowers." [4] In *Ulysses,* Nelson's pillar, and the fiery Saint Columbanus become sexual bodyings forth. In Himmel's *The Rich and the Damned,* a strangely possessed character must have a light burning always beneath his dead mother's portrait. In *Compulsion,* Levin uses the material of the notorious Leopold-Loeb crime and interprets the forcing of the victim's body into a narrow culvert in terms of the criminals' sexual psychopathology. The symbol of the glass unicorn with its broken horn is basic in Tennessee William's *The Glass Menagerie.* One could multiply such examples indefinitely. In

Finnegans Wake, the use of language with punning multiple suggestions of meaning follows closely the insights of Freud's study of wit and its relation to the unconscious.

On the stage, William's *The Glass Menagerie* and *Streetcar Named Desire* and Arthur Miller's *The Death of a Salesman* are notable displays of the motivation of the unconscious. They would have been impossible for either audience or writer before the basic acceptance of your myth. So firmly established is this acceptance of depth psychology that a writer in *Time* a year or two ago wise-cracked, "Novelists are beginning to be inhibited by fear that their novels will not parse psychologically."

I turn now from the mere names of works which show the influence of your language to examine the kind and amount of this influence in a typical contemporary novel, not one of the rare best, nor yet one of the over-abundant worst. I choose *The Great World and Timothy Colt* first published in 1956. In it, Louis Auchincloss deals with the conflicting pressures upon a rising young man in a law firm that has become big business. The book develops along the usual lines of the financial-success-at-price-of-soul's-satisfaction theme, and shows no particular debt to your language until it is about half through. But from the middle on, the influence is frequent. David, an interior decorator, lacking something of normal masculinity, is as much in love with Eileen, the daughter of the ruthless senior member of the law firm, as his weakness permits. When he calls her "The one true flower in a pasteboard world," she replies,

> "Maybe it's because I don't fit into your preconception of what women are."
>
> "They're all spiders to me, aren't they, Miss Freud?" he retorted, immediately irritated again. "Tarantulas, or lobsters with giant claws? Castrating claws?"
>
> "Do you ever see them as disinterested?"
>
> "What's more castrating than that!" he cried and then paused. . . . "You are disinterested. It's why I could never have an affair with you." (pp. 161-162)[5]

A little farther on, Larry, a young get-aheader, is speaking with Timothy, the protagonist, about Timothy's marital unhappiness with Ann:

> " . . . Who the hell does she think she is, I'd like to know, dragging herself around with a face a mile long? She's jealous, that's all! Now that you're beginning to hit the big league, she wants to suffocate you in a steam bath of neuroses!"[5] (p. 182)

Still later, David, the decorator, thinks of Ann who has confided her worries to him:

> What business, really, did such a creature have to come barging into his life with her luminous reproach, making him feel the very throb of her wounds? Was she a woman hurt as he wanted women to be hurt and did he take the guilt of her wishes on himself? Was that what a psychiatrist would say? Or was he really, in some wild, perverted fashion, falling in love with her? (pp. 210-211)

Timothy later discusses Eileen, the other woman in his triangle, with David. They are at a party at which Eileen has surrounded herself with pseudo-intellectuals. Timothy bursts out,

> "She wears a liberal opinion as if it was a new hat."
>
> "So you've found . . . that to Eileen appearance is everything. Taste is God. That hers is the profoundest kind of superficiality. She must dress well, walk well, eat well, think well, pray well. Not to the eyes of others, but to her own. It makes for a wearing life. Because she's an exacting judge."
>
> "I suppose it's all a substitute for something," Timmy said uneasily. (p. 217)

Eileen, it should be mentioned, is a divorcee.

After a trial scene in which Timothy has confessed to malfeasance in a trust and enlarged his guilt beyond strict truth, he and Ann discuss their situation. He thinks of himself as corrupted and exclaims,

> "It's a dirty business, you know."
>
> "But you're going to fight it!" she exclaimed . . . You're going to fight it and win!" . . .
>
> "What makes you so sure?"
>
> "Because you're not that Timmy Colt any more!"
>
> "What Timmy Colt?
>
> "The society lawyer! . . . The trouble shooter for Dale. . . . The slick man of the world!"
>
> He stared back, astonished at her violence. "Was *that* the way you saw me?"
>
> "Wasn't it how you wanted to be seen?"
>
> "Why?"
>
> "Because a Timmy like that could be ruined, couldn't he? A Timmy like that could be destroyed?" . . .
>
> "You mean I did it subconsciously?"

"On the contrary. It was entirely conscious. I bet you had to *make* yourself give the Fibre Company to George!"

"And if I did? What do you deduce? Why should I have?"

"To punish yourself." She paused again. . . . "For killing Mr. Knox." . . .

"But I didn't kill Mr. Knox," he said quietly.

"Only in your fantasy, . . . Which I suppose is the realest place to kill people. If you have to kill them at all."

"It isn't a nice thing to do, is it?"

"It isn't a nice thing to think. But we can't *help* what we think. That's the point." (pp. 274-275)

Later, when they are talking again, Timothy says,

"I thought I had played my little scene in court of my own free will. . . . That it was *my* decision. As a sort of reparation to Eileen. I thought *if* it was that, I would not be ashamed to come back to you. But if it was self-destruction, self-indulgence, the things we talked about once, if I had ruined myself and you and the boys for my own selfishness, then I didn't know how to face you." (p. 304)

Here the death-wish, the conflict of Thanatos with Eros is obvious. A moment later, after Timothy has explained the difficulty he will now have in getting employment for which he is trained, Ann exclaims,

"Timmy, I don't mind anything if you can believe in yourself. If you can give yourself credit for what you did." . . . "Only this once! . . . Just believe it this once. Of course, we're complicated, and our motives aren't clear. But there are still moments, Timmy. Moments above the damn subconscious. Like the moment when you told the judge the truth!" (p. 305)

I need not comment to men of your profession upon either the language of these quotations or on what they reveal of the writer's interest in depth psychology. The point is that the writer expects his ordinary lay readers to follow it too.

The influence of the new psychology is greater still in a novel of more stature late last year. It is James Gould Cozzens's *By Love Possessed*.[6] I would state its theme thus: Our unconscious urges, which are usually sexual at base, when unsuccessfully repressed or incompletely sublimated, rise like demons, wearing the innocent masks of various kinds of love. The book is a careful stripping away of these masks until the whole mixture of human motives, the ugly with the beautiful, lies before the reader, to produce in him a catharsis of pity and fear. With few exceptions, the characters are such people as one meets almost every day, and yet even the most normal, most stable, and most mature of them, are, or have been, demon-possessed, the prey of unconscious and semiconscious emotional urges which are or have been beyond the grasp of their intellect and beyond the control of their conscious will. The masking appearances of love vary from the unqualified animal attractions of sex, through romantic love of man and woman, love of family, love of friends, and love of community and place, to the very love of man for his mysterious God. Yet every such love is shown to cover something which the character displaying it does not wish to recognize about himself.

The people range from Arthur Winner, the good man of superior mind, who in his fifties matures enough to realize and accept the difficult human condition stoically, through old Noah Tuttle, who misuses trust funds to save his friends, yet touches no penny for himself, and who, despite a prudishness which will not permit sexual talk, loves sentimentally the psychically injured old-maid secretary, on through this old maid, Helen Detweiler, who at eighteen suffered trauma by the drowning of her parents and who, because she has morbidly assumed that they deserved their death because of nasty sexual relations, has protected herself from all sexual approach by a life of extreme devotion to her young brother who is thereby smothered, on through Julius Penrose who has compensated for polio-crippling in his prime by playing God with his great knowledge, on through Ann Winner, the over-tall girl who convinced herself that she hated boys and beat them at their sports, but who is saved for normality by Arthur Winner's love; on through Warren Winner, Arthur's dead son by a first marriage, the "bad boy" who had to have attention at any price and who becomes a personification of the death-urge; on through Brophy from the wrong part of town, who will compensate for not belonging by becoming a judge and a good

judge too, on through Marjorie Penrose, a bundle of uncontrolled urges, physically passionate and hysterically unstable, who wants to love God, but who with her guilt complex, also wants and incurs pain and humiliation of the basest kind, down to the half-wit girl on trial for killing her newborn child and loving every minute of the attention she is getting.

I have noted over a hundred places where unconscious emotional motivations are described, sometimes in the very language you have popularized, although Mr. Cozzens is not as intent on the sounds of that language as upon its substance. The conflict of the psyche, torn between the pleasure and the reality principles is described at least eighteen times. The guilt feeling with unconscious wish for punishment recurs at least twelve times. Repressions are surmised and described at least fourteen times. Psychotic compulsions appear eight times or more. Recognizable Oedipal feelings are shown at least seven times, although the term is not used. The death-wish, with the conflict of Eros and Thanatos is recognizable four or more times. Anxieties are mentioned five times; reveries and fantasy, four times; compensations, twice; hysteria, twice; and evasive rationalization, once. The feeling of not belonging as an unconscious motivation is mentioned definitely in two cases, and its effects are described several more times. Ambivalence is shown repeatedly. Two characters are given Freudian slips of tongue, and a dream of the principal character is left to the reader's interpretation. Psychiatrists are spoken of twice. It should be recognized that this is not a book for a special audience; indeed, it was a best-seller and a "book-of-the-month," yet it assumes that such material will be understood and appreciated by all kinds of readers.

To show the tone and the influence of your myth upon it, here are phrases and sentences from the novel:

> "What was beyond the will's reach—the base functions, fastidiously abhorred with all her heart, of the vile body, she now excluded from her mind." (p. 34)
>
> "How bad, then, the physical body must be, seeing that death was its appointed portion! How bad, then must Helen be—how bad, perhaps had Helen been? Were there wicked thoughts or secret experimental acts, known to her, which made her deserve her punishment? Had her parents done that which, half known to her, made them deserve theirs?" (p. 43)
>
> "It was never that I didn't like men. I thought they were marvelous; and anyone could see that girls were just terrible. . . . All I meant was that I wanted to be a man like that so much I could hardly stand it. . . . I knew it was no good; I'd have to go on being a girl. And I just loathed it. . . . Very neurotic, I can see now." (p. 99)
>
> "The truth was one that took getting used to. Discovering it, the heart reluctd, had recourse to customary defenses, tried to add one more to the index of prohibited thoughts." (p. 113)
>
> "The witching hour [of love for the young man romantically conditioned] was to be saved by a division of consciousness; one part excluding rigidly all that engaged the other part. Held separate, thoughts on the plane of moonlight and roses could proceed regardless of the lower animal. Or, at least, they could so proceed to a point." (p. 127)
>
> "Attempts to imagine how two people would look, what they could find to do and say, as they prepared to accomplish and then . . . went ahead and accomplished their joint obscenity, these speculations would be against her conscious wish and will." (p. 129)
>
> "[These were] the experienced proposals of a girl with an itch (no doubt, some psychological abnormality) so intense that she was helpless, she had to have it satisfied." (p. 160)
>
> "The unnoticed girl's ordinary solace had to be reverie. . . . In the daily life of the school, boys might ignore her; but in reverie, how different!" (p. 168)
>
> "Yes; one might [feel sorry for Helen] . . . but refusal to face the verities, though not without immediate satisfactions, carries penalties." (p. 214)
>
> "I feel sure, that as far as Marjorie knew, she didn't like what Osborne made her do, or did to her. How could she like those things? Often, they'd be physically painful; mentally, or, if you like spiritually, they were abominable—revolting debasements; studied outrages; systematic violations of all the sensibilities. Who but the maniac forcing her could desire them? My considered answer: Marjorie, though all unknowing, could! She could see such punishment as condign. She had to submit, because in an anguished way, she craved to have done to her what she was persuaded she deserved to have done to her. . . . She harbors a consuming sense of guilt. Knowing the principle of passion residing in her, . . . she gets no rest from guilt. . . . For . . . the pleasure that the

maenad cannot be denied, she must pay in pain." (p. 237-238)

"What did the cherishers in fact cherish? Must the 'powerful instinct' and all its myriad shapes of earnest devotion and eager sacrifice be, to a psychologist, suspect. Subject of so much piety and praise, did this great paternal tenderness's every exercise boil down . . . to: *I love me?* . . . [The] thinker recoiled. He did not want the decent cover lifted." (pp. 318-319)

"By his disobedience and wrongdoing, Warren of course attached to himself a surface of disesteem or disfavor, but Lawrence was not deceived. What being bad really did for Warren was win him an intensity of anxious attention, a depth of ceaseless concern." (p. 321)

"That original sin, man's baser nature, the subconscious (named as you chose) kept unkilled, stirring convoluting as in a crowded, fairly well-secured snake pit, many unholy gross urges, many wicked dumb longings, many frustrate mean impulses, many unavowable dark desires. Only fairly well secured, never quite subdued by grace, strays were now and then bound to escape their subterrane. Creeping above ground, insinuating themselves where nature had fallen, they could strenuously work for a while their unclean wills." (p. 397)

As is obvious from many of these quotations, the method of the book is primarily to display the free associations of the protagonist concerning himself and the people he is involved with by professional, social, and family ties.

The Great World and Timothy Colt shows perhaps the average quantity and quality of the present literary influence of your language and myth. *By Love Possessed* shows a greater concentration of such influence than do most novels. Plays also, like those of Tennessee Williams and Arthur Miller, show comparable concentration and quality. Truly the depth psychology has passed from the status of audaciously challenging fad to that of relaxed acceptance in our contemporary literature. The splits in your own ranks between the Jungians, the Freudians, and others occasionally show up, especially in Joyce; but they are not yet of literary importance.

I shall close by appending a fragment of the dream language of *Finnegans Wake* which is especially rich in your lore when its punning suggestions are expanded into literal statement:

Be who, farther potential? and so wider but we grisly old Sykos who have done our unsmiling bit on 'alices, when they were yung and easily freudened, in the penumbra of the procuring room and what oracular comepressions we have had to apply to them! could (did we care to sell our feebought silence *in camera*) tell our very moistnostrilled one that *father* in such virgated contexts is not always that undemonstrative relative (often held up to our contumacy) who settles our hashbill for us and what an innocent all-abroad's adverb such as Michaelly looks like can be suggestive of under the pudendascope and, finally, what a neurasthene nympholept, endocrine-pineal typus, of inverted parentage with a prepossessing drauma present in her past and a priapic urge for congress with agnates before cognates fundamentally is feeling for under her lubricitous meiosis when she refers with liking to some feeler she fancie's face. (p. 115)

This, I shall leave to your skills in the interpretation of dreams which are of imagination all compact.

References

1. Translation by R. C. Jebb.
2. W. David Sievers, Freud on Broadway, New York, Hermitage House, 1955, p. 27.
3. Ibid., p. 16.
4. Signet Edition, p. 46.
5. Page references are to the 1958 Bantam Edition.
6. New York, Harcourt Brace and Company.

Discussion

Dr. Max E. Johnson (New Orleans): I should like to applaud the inclusion of such a paper as Dr. Clark's in the Section's Program on this occasion. Perhaps to some it may have seemed rather far afield from the matters usually considered at a medical meeting, though less to the psychiatrists among us than to others, no doubt. The psychiatrist's professional interests and activities take him closer to general social and cultural affairs than do those of the physician in other fields of medicine. But other physicians neither can nor should consider such affairs alien to their interests. The success of the recently inaugurated newsmagazine for physicians, MD, attests to the actual presence of such interests among doctors generally.

I can find nothing of importance in Dr. Clark's remarks to take issue with. I should, however, like to assure Dr. Clark that only the veriest tyro would claim that we have invented either human nature or the basic insights. He has himself indicated Professor Freud's own disclaimer. What depth psychology has done is, much as Duke Theseus' poet, to give to the "airy nothingness" of the intuitive and scattered insights of the ages "a local habitation and a name", that is to say, placed them, with we feel considerable success, on a scientific basis.

Consideration of this debt which psychoanalysis owes to the poets, the evidence of which is imbedded in so many of its technical terms, brings me to the first point of departure in presenting some thoughts provoked by this paper. My theme here is the reciprocal nature of the influence described, that is the influence of literature on the theory and practice of psychotherapy. Many more instances than Dr. Clark cites might be given of the use by Freud and other early writers of terms from literature and mythology: narcissism, masochism, sadism—the list would be long. Also these authors filled their theoretical and clinical papers with literary allusions, comparisons, and analogies, a custom still followed to a degree by analytic writers. Perhaps less obvious and less well known is the fact that literature often enters into the work of psychotherapy. In psychotherapy of a non-directive type, whether strictly psychoanalytic or not, references by the patient to anything under the sun are likely to occur. These references in the free therapeutic setting will of course convey and express thoughts and affects of the patient, unconscious as well as conscious. At times, the therapists' acquaintance with a patient's direct or indirect literary reference, say in a dream or an association, may aid greatly in elucidating some aspect of the therapy. This will obviously be especially true of patients with higher educational attainments and/or some special interest in literature. Time does not permit citation of examples, but I may mention that much has been written in the psychoanalytic literature about this. Notable instances may be found in the books and articles by Dr. Theodor Reik and Dr. Ella Freeman Sharpe, the latter coming by her interest in this aspect naturally, since before becoming a lay analyst she was a teacher of English literature.

I might have wished to hear Dr. Clark expatiate further and more explicitly on his views as to the manner of the psychologic influence on literature, that is, about the different ways in which the psychological language and concepts have been used by various authors. It appears to me that he has delineated in his more lengthily treated examples three differing ways in which the influence has shown itself. The first is the putting of psychologic terms and language into the mouths of characters, exemplifying the common use of such by laymen nowadays. This can of course be nothing more than portraying manners, and might have little to do with real acceptance of psychologic insights. This seems to some extent shown in Auchincloss' *The Great World and Timothy Colt.* A second way of using the psychologic ideas is exemplified in Cozzens' *By Love Possessed.* Here there is more than a superficial or incidental use of terms, but rather a self conscious use of the concepts of depth psychology in the essential structering of the novel. The third such use I would see in the excerpts from Joyce's *Finnegan's Wake* where the literary production itself embodies the processes of depth psychology, in this case dream psychology, with its punning, oblique associations, condensation, and displacement.

Another aspect of the influence on literature of depth psychology which I could wish that Dr. Clark had had time to expand would seem to me those that are more subtle and general. That is, in what ways, if any, has the absorption of analytic concepts into the thinking and attitudes of literate people influenced the way writers handle and choose their material? I could have wished also for more from Dr. Clark by way of evaluation of the influences he so clearly documents. I would refer those who are interested to an article "The Writer and the Clinic" by Edmund Fuller, in the April 26, 1958, issue of *The Saturday Review.* Professor Fuller discusses cogently some of the more unhappy results of the recent and current vogue for psychopathology and clinical detail in literary productions.

I shall conclude by mentioning that this influence of modern psychology on literature that Dr. Clark's paper presents is but the latest example in the history of literature of the influence that contemporary philosophical or psychological concepts have had in each age. It would be surprising if literature did not reflect such general ideas from other areas of thought. The poet and the psychiatrist have much to give each other; after all, it is the same human nature that each seeks to fathom.

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Editorial

Polio Immunization

Medical experience of the last three years has shown that it is possible to make paralytic polio a rare disease. For this to be accomplished it will be necessary to make polio vaccination a continuing effort, and this in turn will require strong medical leadership. The goal to be gained is worthy of the highest aims and ideals of our profession.

Two years ago, the American Medical Association recognized that the value of the Salk polio vaccine was not sufficiently appreciated and its benefits were not being utilized by the public. The A.M.A. called for a nationwide campaign to inoculate everyone under forty. With the leadership of the State and county medical societies, the campaign was made effective and the largest enterprise of this type ever undertaken inoculated millions in a short time. A more complete job would have been accomplished if the drive had not been slowed down by a shortage of vaccine. This program of immunization was in accordance with the context of the local policies of the state and county societies.

Although there are no other instances in which millions were given protection against a disease in so short a time, it is apparent now that the job is less than half done, and a further steady and well directed campaign is needed now before the onset of the polio season. The momentum of the 1957 campaign carried over into 1958, but only forty-four million doses were used. This is barely half of the amount used in 1957, although less than half of the population under forty have been adequately vaccinated.

The effect of incomplete immunization is apparent in the figures available for 1958. Fifty-four per cent of the population under forty have not completed their series of inoculations. Almost one-third of all children under five have not been inoculated at all. The figures available cover forty-seven weeks of 1958, and 5,563 cases of polio were reported, of which 2,810 were paralytic. This represents both a greater total and a greater proportion of paralytic polio than 1957. Fifty per cent of all paralytic cases occurred in children under five, with the

highest attack rate in those under one year. Although Louisiana, in 1956 and 1957, was in the top ten states, fortunately, in 1958, it was not, there being 76 cases in Louisiana in the first ten months of 1958.

Epidemics of polio appeared in various cities, particularly Detroit. In the first nine months of 1958, there were 4,614 polio cases reported for the nation, of which 1,635 were paralytic; 163 more than in 1957. There were 487 cases of polio among triply vaccinated people, of whom 162 were paralytic, with 11 deaths. On the other hand, the paralytic rate this year has been 66 per cent among nonvaccinated cases of polio, but only 34 per cent among those triply vaccinated.

Consideration of these various figures, and also, consideration of additional data from examination of the sera of children inoculated in the field trials indicates that many have adequate immunity from three injections of vaccine, while possibly in others waning immunity cannot be ruled out as one possible factor in the development of paralytic polio among triply vaccinated persons. In fact, if anything else were true it would make the immunity of this virus disease different from that of any other. For instance, it is thought that immunity to dengue is maintained in its endemic areas only by frequent reinoculations by mosquitoes of those who had previously had the disease. The same has been postulated for yellow fever. Every physician knows in his own practice of those who have had measles two and three times, and the cumulative experience of generations of smallpox vaccination has caused the Public Health Service to put a three year limit on the protection they consider afforded by smallpox vaccination. It is logical, therefore, to expect that many individuals would not have a lasting immunity from a killed polio virus vaccine, since a substantial proportion of the population do not acquire permanent immunity from virus infections occurring in the natural state or with an attenuated virus.

The practical import, therefore, of these considerations is that all who have not had the three polio inoculations in the susceptible age should be urged to get them, and those who have completed these in the past should be urged to have one each year until the degree of protection afforded is fully apparent.

The Polio Committee of the Louisiana State Medical Society advocated this action last year. Recently, various national organizations and Public Health authorities have been reported as advocating that a fourth injection be given before the start of the 1959 polio season. At its recent meeting in Minneapolis, the House of Delegates of the American Medical Association recommended that a *minimum* of three polio vaccine injections be given and that:

1. Each physician assume the responsibility for making certain whenever possible that all members of families he serves receive protection against poliomyelitis by having the full three doses of polio vaccine;

2. State medical organizations arrange with state health departments for a joint effort to bring together county medical society representatives and representatives of county and city health departments for the purpose of discussing the need for joint study committees at the local level to survey the problems which may exist and to work jointly to solve them;

3. County medical societies meet with county and local health department representatives to create study committees to survey the problem of immunization as it may exist in the local area and develop and implement a satisfactory program to meet the local situation.

It is seldom that organized medicine has had such an opportunity to give mass protection against a disease. It will require state and county societies to initiate and give strong leadership to community-wide vaccination programs. Action of this type will inspire confidence and encourage family acceptance. A campaign of this sort is worthy of medicine's highest ideals.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

MEDICAL STAFF APPOINTMENTS

The Board of Commissioners of the Joint Commission on Accreditation of Hospitals at its recent meeting, went on record concerning membership on hospital staffs. The Board of Commissioners desires to indicate to all staffs and interested medical organizations the policy of the Joint Commission when there exists a difference of opinion between the medical staff and the governing body concerning membership on the medical staff.

Medical Staff Membership

a. The Joint Commission on Accreditation of Hospitals is a voluntary organization. The purpose of the organization expressed in its bylaws does not give the Joint Commission either the legal or the moral right to interfere or adjudicate in local hospital matters.

b. The question of membership on the medical staff is the primary concern of the governing body and medical staff of the hospital. The governing body has the legal right to appoint the medical staff and the moral obligation to appoint only those physicians who are judged by their fellows to be worthy, of good character, qualified and competent in their respective fields.

Medical Staff Appointments

a. Privileges may be extended to duly licensed qualified physicians to practice in the appropriate fields of general medicine, surgery, pediatrics, obstetrics, gynecology and other recognized and accepted fields according to the individual experience, competence, ability, character, judgment and ethical regard of the applicant as evaluated by the active credentials committee and recommended by it to the medical staff and to the governing body.

b. Individual character, competence, experience and judgment should be the criteria for selection. Under no circumstances should the accordance of staff membership or professional privileges in the hospital be dependent solely upon certification, fellowship or membership in a specialty body or society.

The selection of a medical staff and the delineation of privileges of individual staff members are extremely important responsibilities of the medical staff, and with these responsibilities perhaps goes one of the most difficult tasks which the medical staff must face. It is difficult because there are no easy rules to follow and no well-defined criteria acceptable to the medical profession in general. It is a problem of each hospital staff making its decisions about each staff member on an individual and unique basis.

Physicians are reluctant to sit in judgment on their colleagues. This attitude is understandable and there are those who believe that only the individual himself can judge his own capabilities. However, when doctors choose to associate themselves in a community effort, like that of a hospital medical staff, it necessarily follows that there must be rules and regulations and the individual becomes responsible not only for his own performance, but for that of others. He shows willingness to both judge and be judged.

To select its members and delineate privileges, the hospital medical staff should set up a system to evaluate each applicant. Except for the broad statement of principle formulated by the Board of Commissioners, the Commission cannot state what this system should be or what criteria should be used. Whatever the system, it should be objective, impartial and fair; broad enough to recognize professional excellence and limited enough to safeguard patients; and based on definite workable standards which can be easily applied.

In some hospitals a system using the classification of major, intermediary, and minor privileges is used. In others, unlimited and limited categories are established. In still others, no classification is used and the privileges of each staff member are specifically stated. If a system involving classification is used, the scope of the divisions must be well defined, and the standards which must be met by the applicant should be clearly stated for each category.

The whole problem is very basic. A credentials committee and medical staff must live up to their responsibilities and above all else have integrity. In considering any individual for staff privileges, fundamentally this question might well be asked, "Would I let this man operate on me or my family for appendicitis, read my electrocardiograms, use hypnotism on me, etc?" If the answer is no, he should not be allowed to do so on anyone else.

The Joint Conference Committee

The Standards for Hospital Accreditation of the Joint Commission on Accreditation of Hospitals state that the governing body of a hospital should establish a formal means of liaison with the medical staff. Although the method used to accomplish this is a decision to be made locally, the Commission considers the establishment of a

Joint Conference Committee a preferable plan. The Boards of Trustees of the American Medical Association and the American Hospital Association have approved the following statement which should be of help in the formation of such a committee:

PREAMBLE

"As the art and science of medicine have become more complex and more comprehensive, hospital services, of necessity, have followed suit in an effort to produce maximum results from medical progress. For this reason and because of the other joint and separate responsibilities which physicians and hospitals have in providing medical care and hospital services, organization and cooperation are essential.

These responsibilities cannot be discharged with maximum effectiveness without proper liaison between doctor and hospital, the doctor being represented in an organized manner by a medical staff and the hospital by its governing body and that body's designated representative, the administrator.

In addition to, but not in conflict with regularly established lines of authority and responsibility, there should be a common ground where these two groups can meet in order that there may be mutual understanding of each other's activities and problems. A suitable medium for this interchange of information and discussion is the Joint Conference Committee.

This document seeks to encourage the development and to strengthen the role of the Joint Conference Committee of the Board of Trustees and medical staff. It urges the establishment of such Joint Conference Committees because it believes that they will bring to bear on major decisions which must be made in the hospital a full measure of broad experience, intelligence and responsibility.

Such a Committee should be a part of the organizational structure of every hospital. It should exist even where there is medical staff representation on the governing board. The representatives of this committee meet—not as representatives of the departments from which they were chosen—but as members of the committee as a whole in the interest of the patient, the physician, the hospital and the community.

THE JOINT CONFERENCE COMMITTEE

The Joint Conference Committee is a discussion committee of the governing board and the medical staff. It has no intrinsic authority; if allowed to become an action group, its usefulness will at once be jeopardized.

Purposes

Its purposes, all directed toward better patient care, should be at least three:

a) Communications to keep board, staff and administration cognizant of pertinent actions taken or contemplated by one or the other. These should be reported to the committee even though they do not require action by more than one component of it. Open communications through the Joint Conference Committee will emphasize the importance of prior knowledge of all affected groups before action is instituted and will thus prevent misunderstanding.

b) Planning. Plans for growth and inevitable change in the hospital organization should be considered by this committee.

c) Problems. Issues which arise in the operation and affairs of the hospital affecting all parties should be brought to the committee for consideration.

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

SURGICAL MEETING IN HOUSTON, TEXAS, FEBRUARY 2-4, 1959

All members of the medical profession are invited to attend a three-day Sectional Meeting of the American College of Surgeons in Houston, Texas, February 2, 3, 4, 1959, at the Shamrock Hilton Hotel.

Reports in general surgery, a full day's otolaryngology program, a cancer workshop, films, and hospital clinics will comprise the 3-day meeting.

The special otolaryngology session on Monday, February 2, will include scientific reports and discussions on problems of current concern. The cancer workshop on Wednesday, February 4, is for medical directors of approved cancer programs in Southwestern United States, and its purpose is to improve the professional and administrative aspects of local cancer programs. It is the first program of its type to be conducted in many years, and its success will determine future use of workshops during Sectional Meetings. Dr. R. Lee Clark, Jr., Chairman, Executive Committee of the ACS Committee on Cancer, is in charge.

General sessions will include discussions on tumors, varicose veins, preparation of parents for parenthood, cancer, radiation hazards, diseases of the pancreas, gastrointestinal tract bleeding, among other topics.

MEDICAL RATING SPECIALIST WANTED VETERANS ADMINISTRATION

This position is interesting, satisfying and rewarding and offers opportunity to serve veterans. It is a desk position and requires no travel. The work week is eight hours per day, Monday through Friday.

The incumbent of this position is entitled to leave privileges, both annual and sick; coverage under the Civil Service Retirement Act or Social Security System, depending on the type of appointment. The beginning salary is $8,810 per annum with periodic increases until a salary of $10,250 per annum is reached.

For an appointment and further information, contact F. J. Bethancourt, Personnel Officer, 2026 St. Charles Avenue, New Orleans 13.

LOUISIANA ACADEMY OF GENERAL PRACTICE SEMINAR ON MENTAL HEALTH CENTRAL MENTAL HOSPITAL, PINEVILLE, LA.

Saturady, January 31, 1959

9:00 A.M.	Registration.
9:45 A.M.	Welcome by Dr. M. C. Wiginton, AAGP National Committee on Mental Health.
10:00 A.M.	Official Greeting from Dr. Arthur Seale, Hospital Superintendent.
10:15 A.M.	Discussion on Methods of Admitting Patients to State Hospitals—Hospital Staff.
10:45 A.M.	Ward Rounds.
11:30 A.M.	The Use of Psychiatry in General Practice—Dr. T. A. Watters, Psychiatrist, New Orleans.
12:30 P.M.	Lunch.
2:00 P.M.	Evaluation of the New Patient from the GP Point of View—Dr. W. A. McBride, Jr., Psychiatrist, Shreveport.
3:00 P.M.	How Psychiatry Has Helped Me in My Practice—Dr. E. A. Fatter, LAGP, AAGP, New Orleans.
3:15 P.M.	Why I feel I could use Psychiatry in My Practice—Dr. E. B. Flake, LAGP, AAGP, Shreveport.
3:30 P.M.	Discussion of Psychiatry and General Practice—Drs. Watters, McBride, Fatter and Flake.
4:30 P.M.	Adjourn.

This program is acceptable for four (4) hours Category I credit. There will be no registration fee.

POSTGRADUATE COURSE ON DISEASES OF THE CHEST

The Council on Postgraduate Medical Education of the American College of Chest Physicians

will present the 12th Annual Postgraduate Course on Diseases of the Chest at the Sheraton Hotel, Philadelphia, March 30—April 3, 1959.

The most recent advances in the diagnosis and treatment of heart and lung diseases, medical and surgical aspects, will be presented.

Tuition for this five-day course will be $100, including luncheon meetings.

Further information may be obtained by writing to the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

AMERICAN COLLEGE OF ALLERGISTS

American College of Allergists Graduate Instructional Course and Annual Congress will be held March 15-20, 1959, Mark Hopkins Hotel, San Francisco, California. Contact, John D. Gillaspie, M.D., Treasurer, 2049 Broadway, Boulder, Colorado.

WOMAN'S AUXILIARY

TO THE LOUISIANA STATE MEDICAL SOCIETY

ORLEANS PARISH

A Christmas program tea for the members of the Woman's Auxiliary Orleans Parish Medical Society and their guests was given at the Orleans Club on Wednesday afternoon, December 10th at two thirty o'clock. Receiving in the drawing room with the president, Mrs. Albert William Habeeb were the guests of honor, the presidents of the Hospital Auxiliaries Mmes. William J. Rein, Victor Schiro, Herbert Parker, George F. Sustendal, Sydney Charbonnet, Jr., Edwin Guidry and Jules Myron Davidson.

The choral club of the Hotel Dieu School of Nursing entertained with unusual Christmas carols.

Assisting in the dining room were the young daughters of members, Judy Davis, Ann and Susan Bradley, Sheri Hayes and Marilee Wickstrom.

Mrs. Branch J. Aymond, Chairman
Press and Publicity.

BOOK REVIEWS

A Visit to the Hospital, written under the supervision of Lester L. Coleman, M. D. by Francine Chase; with an introduction by Flanders Dunbar, M. D. and pictures by James Bama. N. Y. Grosset & Dunlap, 1957. 68 p. Price $1.50.

This unique little book should be in the office of every physician who treats children and who must from time to time send a child to hospital for treatment. It is a picture book for the child, explaining why the trip to the hospital is necessary and what experiences he may expect while he is there. It explains that the stay at the hospital is for a short time only and that he will feel better when he returns home. The picture narrative, centered around hospitalization for a tonsillectomy, makes of the days away from home a new and interesting experience to be remembered, rather than one of fear in an unknown world. A foreword written for parents outlines the part they should play in this emergency.

MARY LOUISE MARSHALL

Urine and the Urinary Sediment; by Richard W. Lippman, M. D., Springfield, Ill., Charles C Thomas, 2d. ed., 1957, pp. 140, Price $8.50.

A convenient and valuable reference book for any student, physician or laboratory technician, this manual contains (1) an explanation of techniques for examination of the urine (including physical characteristics, sediment, and analysis for a wide variety of chemical substances); (2) a discussion of normal findings; (3) a description of changes in various disease states with emphasis on their pathogenesis and on color illustrations of the characteristic urinary sediment.

JEANNE HORAN, M. D.

PUBLICATIONS RECEIVED

Grune & Stratton, Inc., N. Y.: Lipidoses, Diseases of the Intracellular Lipid Metabolism (3rd edit.), by Siegfried J. Thannhauser, M.D.

The C. V. Mosby Co., St. Louis: Cardiac Arrest and Resuscitation, by Hugh E. Stephenson, Jr., M.D.

Charles C Thomas, Publisher, Springfield, Ill.: Temporal Lobe Epilepsy, edited by Maitland Baldwin, M.D., and Pearce Bailey, M.D.

Twayne Publishers, Inc., N. Y.: The Birth of Normal Babies by Lyon P. Strean, Ph.D.

U. S. Government Printing Office, Washington: Preventive Medicine in World War II, Volume IV, Communicable Diseases Transmitted Chiefly Through Respiratory and Alimentary Tracts, prepared and published under the direction of Major General S. B. Hays, Editor-in-Chief, Colonel John Boyd Coates, Jr., MC.

In smooth muscle spasm...



• controls *stress*

• relieves *distress*

Pro-Banthine® with Dartal®

Pro-Banthine—
unexcelled for relief of cholinergic spasm—
has been combined with
Dartal—
new, well-tolerated agent for stabilizing emotions—
to provide you with
Pro-Banthine with Dartal—
for more specific control of functional gastrointestinal disorders, especially those aggravated by emotional tension.

Specific Clinical Applications: Functional gastrointestinal disturbances, pylorospasm, peptic ulcer, gastritis, spastic colon (irritable bowel), biliary dyskinesia.

Dosage: One tablet three times a day.

Availability: Aqua-colored tablets containing 15 mg. of Pro-Banthine (brand of propantheline bromide) and 5 mg. of Dartal (brand of thiopropazate dihydrochloride). G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.

SEARLE

Investigator

after investigator report

Wilkins, R. W.: New England J. Med. 257:1026, Nov. 21, 1957.

"Chlorothiazide added to other antihypertensive drugs reduced the blood pressure in 19 of 23 hypertensive patients." "All of 11 hypertension subjects in whom splanchnicectomy had been performed had a striking blood pressure response to oral administration of chlorothiazide." ". . . it is not hypotensive in normotensive patients with congestive heart failure, in whom it is markedly diuretic; it is hypotensive in both compensated and decompensated hypertensive patients (in the former without congestive heart failure, it is not markedly diuretic, whereas in the latter in congestive heart failure, it is markedly diuretic). . . ."



Freis, E. D., Wanko, A., Wilson, I. H. and Parrish, A. E.: J.A.M.A. 166:137, Jan. 11, 1958.

"Chlorothiazide (maintenance dose, 0.5 Gm. twice daily) added to the regimen of 73 ambulatory hypertensive patients who were receiving other antihypertensive drugs as well caused an additional reduction [16%] of blood pressure." "The advantages of chlorothiazide were (1) significant antihypertensive effect in a high percentage of patients, particularly when combined with other agents, (2) absence of significant side effects or toxicity in the dosages used, (3) absence of tolerance (at least thus far), and (4) effectiveness with simple 'rule of thumb' oral dosage schedules."



In "Chlorothiazide: A New Type of Drug for the Treatment of Arterial Hypertension," Hollander, W. and Wilkins, R. W.: Boston Med. Quart. 8: 1, September, 1957.

MERCK SHARP & DOHME Division of MERCK & CO., Inc., Philadelphia 1, Pa.

he effectiveness of 'DIURIL' (CHLOROTHIAZIDE) in Hypertension

as simple as 1-2-3

1 **INITIATE THERAPY WITH 'DIURIL'.** 'DIURIL' is given in a dosage range of from 250 mg. twice a day to 500 mg. three times a day.

2 **ADJUST DOSAGE OF OTHER AGENTS.** The dosage of other antihypertensive medication (reserpine, veratrum, hydralazine, etc.) is adjusted as indicated by patient response. If the patient is established on a ganglionic blocking agent (e.g., 'INVERSINE') this should be continued, but the total daily dose should be immediately reduced by as much as 25 to 50 per cent. This will reduce the serious side effects often observed with ganglionic blockade.

3 **ADJUST DOSAGE OF ALL MEDICATION.** The patient must be frequently observed and careful adjustment of all agents should be made to determine optimal maintenance dosage.

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Here's the perfect answer for a cost-saving x-ray installation, easy to keep abreast of important new developments. G-E Maxiservice ties up *none* of your capital . . . eliminates trade-in losses — progress determines your time for exchange, not finances. In effect, you contract for *utility, convenience, flexibility* and *service,* not for just equipment.

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Actually, after all this time, there has not been a single, serious reaction to ERYTHROCIN. Also, the problem of resistance has remained unusually low.

You'll find ERYTHROCIN highly effective against most coccal organisms. And it may well be the tool to counteract coccal complications following viral attacks.

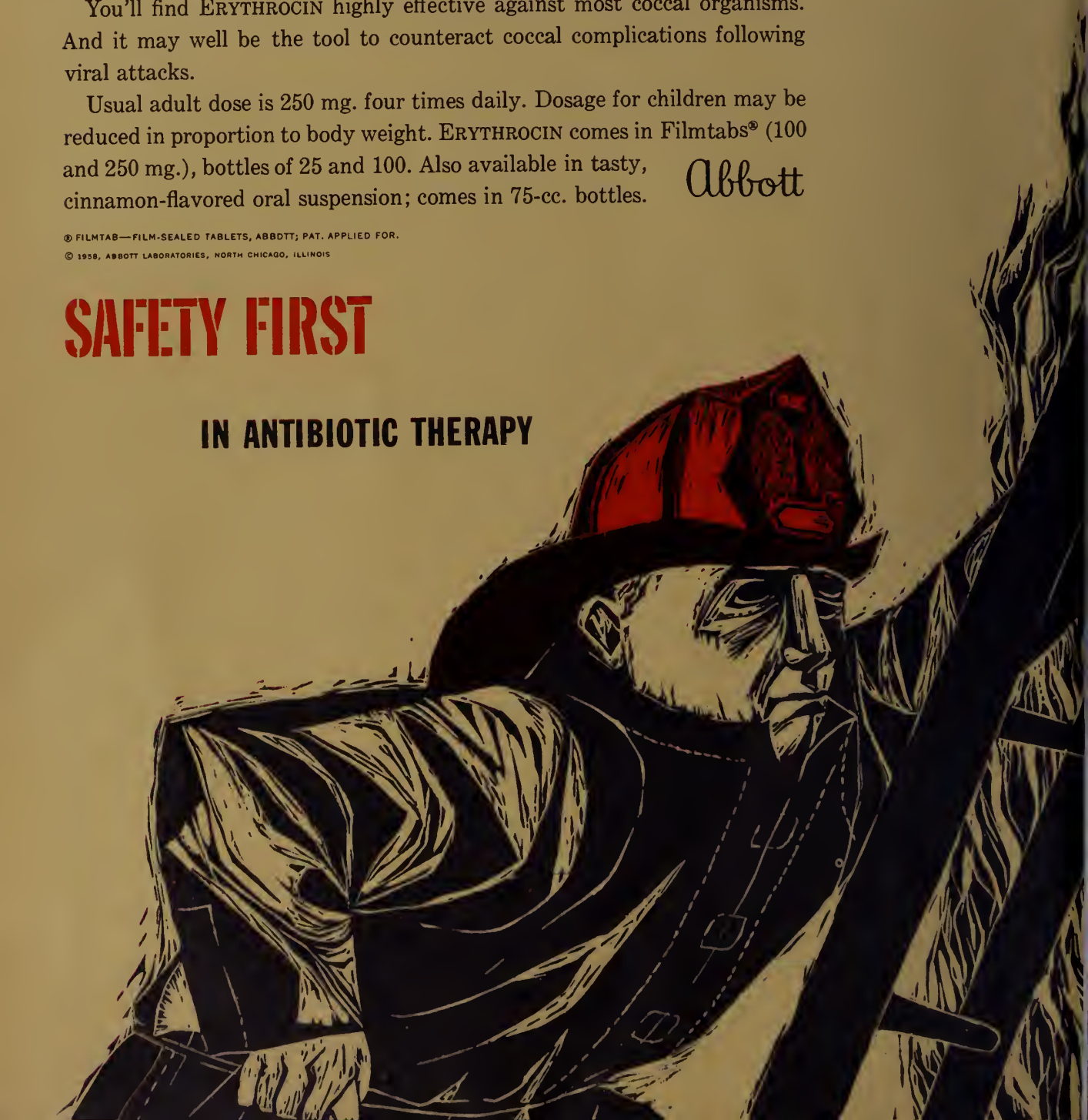
Usual adult dose is 250 mg. four times daily. Dosage for children may be reduced in proportion to body weight. ERYTHROCIN comes in Filmtabs® (100 and 250 mg.), bottles of 25 and 100. Also available in tasty, cinnamon-flavored oral suspension; comes in 75-cc. bottles.

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Doctors, too, like "Premarin"®

THE doctor's room in the hospital is used for a variety of reasons. Most any morning, you will find the internist talking with the surgeon, the resident discussing a case with the gynecologist, or the pediatrician in for a cigarette. It's sort of a club, this room, and it's a good place to get the low-down on "Premarin" therapy.

If you listen, you'll learn not only that doctors like "Premarin," but *why* they like it.

The reasons are fairly simple. Doctors like "Premarin," in the first place, because it really relieves the symptoms of the menopause. It doesn't just mask them — it replaces what the patient lacks — natural estrogen. Furthermore, if the patient is suffering from headache, insomnia, and arthritic-like symptoms due to estrogen deficiency, "Premarin" takes care of that, too.

"Premarin," conjugated estrogens (equine), is available as tablets and liquid, and also in combination with meprobamate or methyltestosterone.

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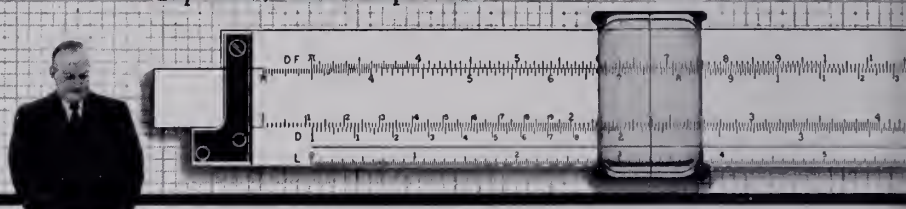
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Tao*

(triacetyloleandomycin)

Capsules / Oral Suspension

designed for superior control of common Gram-positive infections

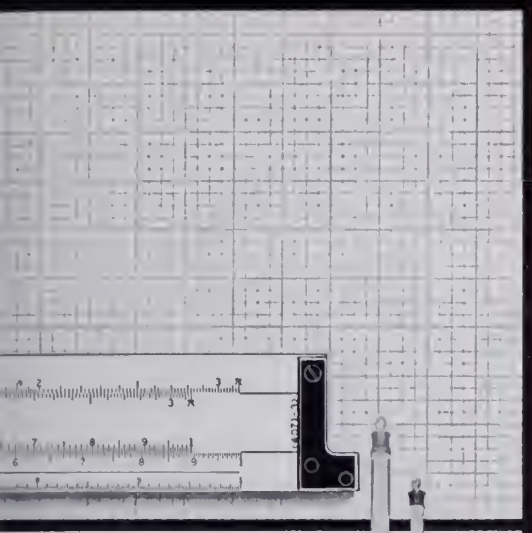




in the patient:

95% effective in published cases[1-8]

Conditions treated	No. of Patients	Cured	Improved	Failure
ALL INFECTIONS	**558**	**448**	**80**	**30**
Respiratory infections	**258**	**208**	**31**	**19**
Pharyngitis and/or tonsilliitis	65	58	5	2
Pneumonia	90	66	17	7
Infectious asthma	44	38	—	6
Otitis media	31	29	2	—
Other respiratory (bronchitis, bronchiolitis, bronchiectasis, pneumonitis, laryngotracheitis, strep throat)	28	17	7	4
Skin and soft tissue infections	**230**	**191**	**38**	**1**
Infected wounds, incisions and lacerations	41	33	8	—
Abscesses	51	43	8	—
Furunculosis	58	51	6	1
Acne, pustular	43	28	15	—
Pyoderma	19	19	—	—
Other skin and soft tissue (infected burns, cellulitis, impetigo, ulcers, others)	18	17	1	—
Genitourinary infections	**28**	**19**	**3**	**6**
Acute pyelitis and cystitis	10	8	2	—
Urethritis with gonorrhea or cystitis	8	8	—	—
Pyelonephritis	4	1	—	3
Salpingitis	5	1	1	3
Pelvic inflammation with endometriosis	1	1	—	—
Miscellaneous (adenitis, enteritis, enterocolitis, subacute bacterial endocarditis, fever, hematoma, staphylococcus carriers, osteomyelitis, tenosynovitis, septic arthritis, acute bursitis, periarthritis)	**42**	**30**	**8**	**4**

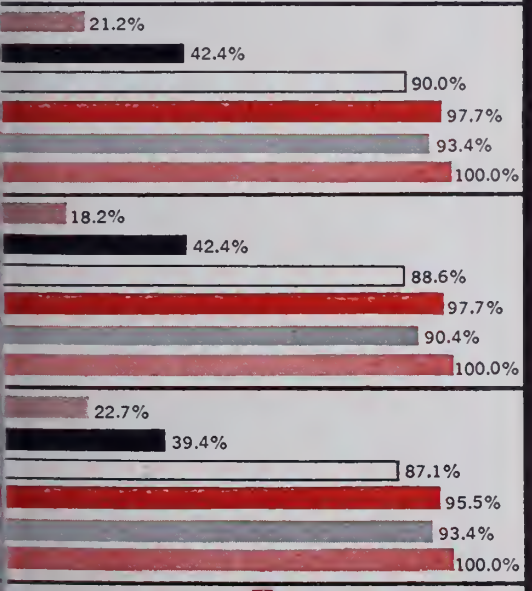


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MPARATIVE TESTS BY THREE METHODS
SC, TUBE DILUTION, CYLINDER PLATE)
130 STAPHYLOCOCCI[9]



centage of organisms inhibited by the range of
centrations listed for each antibiotic.

Other Tao advantages:

Rapidly absorbed—stable in gastric acid,[7] TAO needs no retarding protective coating

Low in toxicity—freedom from side effects in 96% of patients treated; cessation of therapy is rarely required

Highly palatable—"practically tasteless"[7] active ingredient in a pleasant cherry-flavored medium.

Dosage and Administration: Dosage varies according to the severity of the infection. **For adults,** the average dose is 250 mg. q.i.d.; to 500 mg. q.i.d. in more severe infections. **For children** 8 months to 8 years, a daily dose of approximately 30 mg./Kg. body weight in divided doses has been found effective. Since TAO is therapeutically stable in gastric acid, it may be administered without regard to meals.

Supplied: TAO Capsules—250 mg. and 125 mg., bottles of 60. TAO for Oral Suspension—1.5 Gm., 125 mg. per teaspoonful (5 cc.) when reconstituted; unusually palatable cherry flavor; 2 oz. bottle.

References: 1. Koch, R., and Asay, L. D.: J. Pediat., in press. 2. Leming, B. H., Jr., et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 3. Mellman, et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 4. Olansky, S., and McCormick, G. E., Jr.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 5. Shubin, H., et al.: Antibiotics Annual 1957-1958, New York, N. Y., Medical Encyclopedia, Inc., 1958, p. 679. 6. Isenberg, H., and Karelitz, S.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 7. Wennersten, J. R.: Antibiotic Med. & Clin. Therapy 5:527 (Aug.) 1958. 8. Kaplan, M. A., and Goldin, M.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 9. Truant, J. P.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958.

TAO dosage forms—for specific clinical situations

TAO Pediatric Drops

For children—flavorful, easy to administer.

Supplied: When reconstituted, 100 mg. per cc. Special calibrated droppers—5 drops (approx. 25 mg. of TAO) and 10 drops (approx. 25 mg. of TAO). 10 cc. bottle.

TAO-AC (TAO analgesic, antihistaminic compound)

To eradicate pain and physical discomfort in respiratory disorders.

Supplied: In bottles of 36 capsules.

TAOMID* (TAO with triple sulfas)

For dual control of Gram-positive and Gram-negative infections.

Supplied: Tablets, bottles of 60. Oral Suspension, bottles of 60 cc.

Intramuscular or Intravenous

For direct action—in clinical emergencies.

Supplied: In 10 cc. vials.

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even when the causative organism may be a "persistent staph"

Cosa-Signemycin*

GLUCOSAMINE-POTENTIATED TETRACYCLINE WITH TRIACETYLOLEANDOMYCIN

increases the certainty of safe, rapid response

AS PROVED BY extensive clinical trials—an over-all success rate of more than 94% was achieved in a total of 3,280 cases.†

AS PROVED BY success in mixed infections—more than 95% of 1,000 acute and chronic respiratory tract infections were successfully treated; a 99% cure rate was achieved in mixed bacterial pneumonias.†

AS PROVED BY effectiveness in "problem infections"—a response rate better than 96% was recorded in a group of 221 gastrointestinal infections including chronic intestinal amebiasis; 91% of 465 urogenital infections were successfully controlled.†

AS PROVED BY excellent safety record—extremely well tolerated; discontinuance of medication was necessary in only 11 of 3,280 patients.†

A significant number of the above cases had not responded to other antibiotics.

Cosa-Signemycin is particularly valuable in home and office, where susceptibility testing is difficult or impractical.

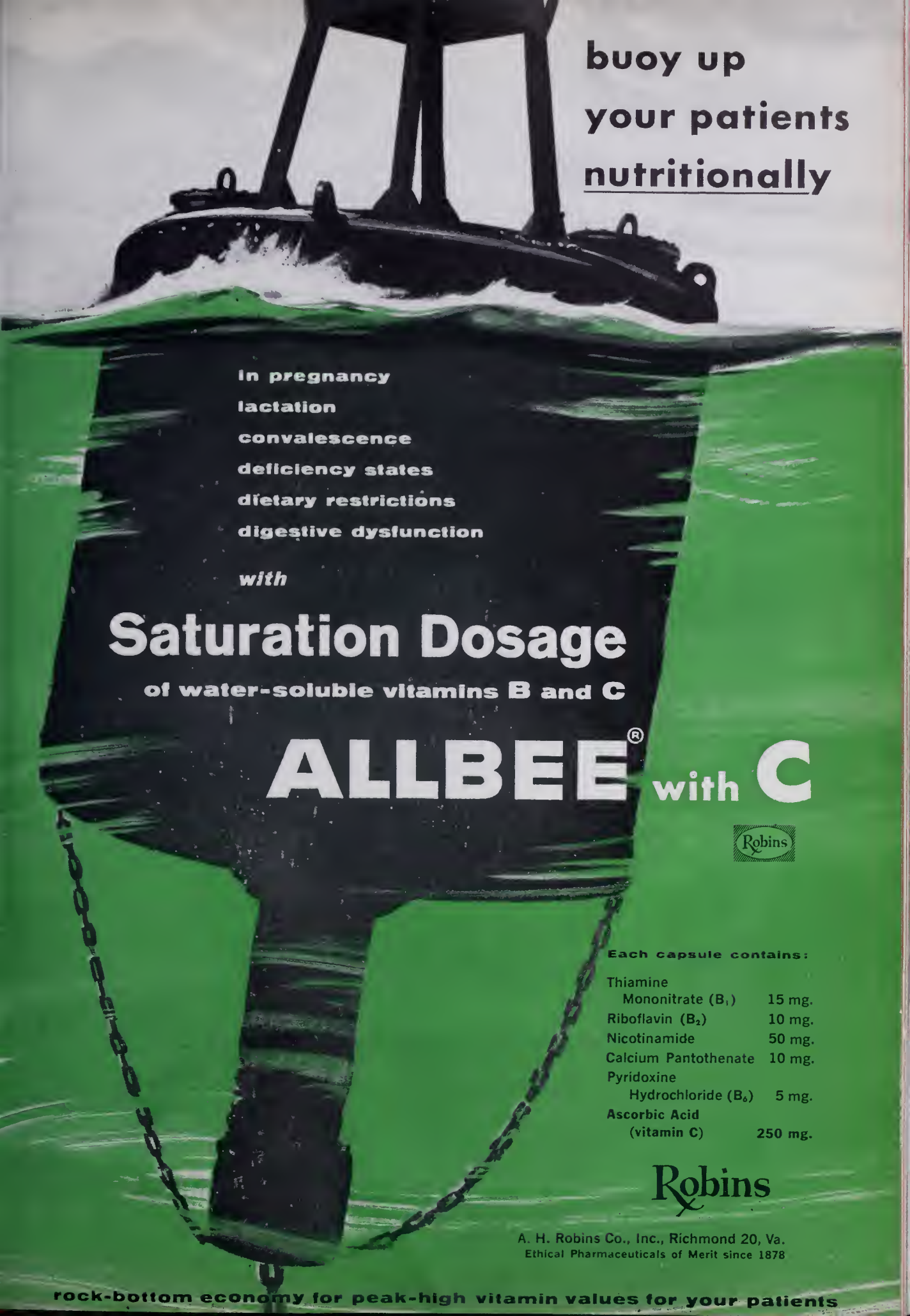
SUPPLY: *Capsules* (green and white), 250 mg. and 125 mg.
New Oral Suspension (raspberry-flavored), 2 oz. bottle, 125 mg. per teaspoonful (5 cc.).
New Pediatric Drops (raspberry-flavored), 10cc. bottle, 5 mg. per drop, plastic calibrated dropper.

Average dosage: For adults, 1-2 Gm. daily in divided doses; proportionately less for children, depending on age, weight, and severity of infection.

†Literature and bibliography available on request.

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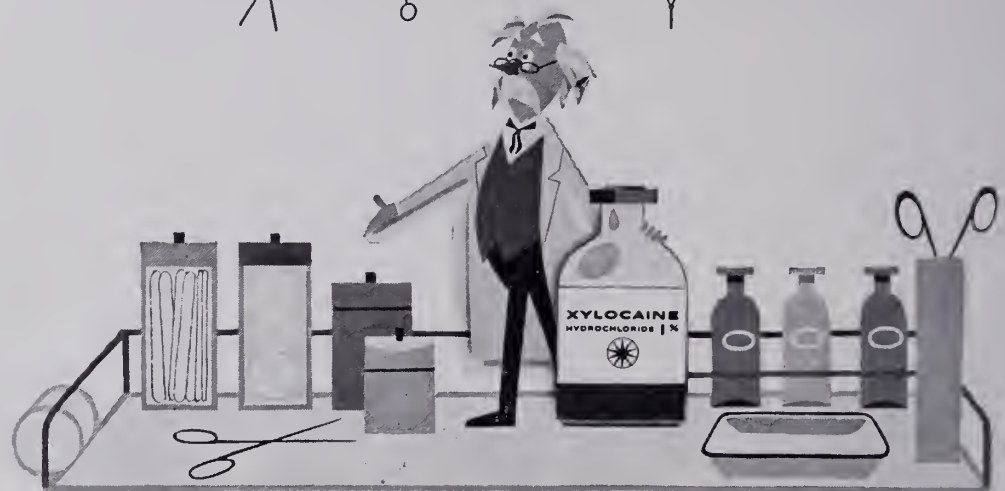

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your patients
nutritionally
in pregnancy
lactation
convalescence
deficiency states
dietary restrictions
digestive dysfunction
with
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Each capsule contains:
Thiamine Mononitrate (B_1) 15 mg.
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Calcium Pantothenate 10 mg.
Pyridoxine Hydrochloride (B_6) 5 mg.
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A. H. Robins Co., Inc., Richmond 20, Va.
Ethical Pharmaceuticals of Merit since 1878
rock-bottom economy for peak-high vitamin values for your patients

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ELECTIVE AND TRAUMATIC

use XYLOCAINE *first...*
as a local anesthetic
or a topical anesthetic

SWAB SPRAY INFILTRATION NERVE BLOCK



Xylocaine HCl solution, the versatile anesthetic for general office surgery, relieves pain promptly and effectively with adequate duration of anesthesia. It is safe and predictable. Local tissue reactions and systemic side effects are rare. Supplied in 20 cc. and 50 cc. vials; 0.5%, 1% and 2% without epinephrine and with epinephrine 1:100,000; also in 2 cc. ampules; 2% without epinephrine and with epinephrine 1:100,000.

XYLOCAINE® HCl SOLUTION
(brand of lidocaine*)

Astra Pharmaceutical Products, Inc., Worcester 6, Mass., U.S.A.

SEE PDR

*U.S. PAT. NO. 2,441,498 MADE IN U.S.A.

Low Dosage KYNEX* for G.U. Infections

Sulfamethoxypyridazine Lederle



Unusual Antibacterial and Anti-infective Properties—More soluble in acid urine[1] . . . higher and better sustained plasma levels than any other known and useful antibacterial sulfonamide.[2]

Unprecedented Low Dosage—Less sulfa for the kidney to cope with . . . yet fully effective. A single daily dose of 0.5 to 1.0 Gm. maintains higher plasma levels than 4 to 6 Gm. daily of other sulfonamides—a notable asset in prolonged therapy.[2]

Dosage: The recommended adult dose is 1 Gm. (2 tablets) the first day, followed by 0.5 Gm. (1 tablet) every day thereafter, or 1 Gm. every other day for mild to moderate infections. In severe infections where prompt, high blood levels are indicated, the initial dose should be 2 Gm. followed by 0.5 Gm. every 24 hours.

KYNEX—WHEREVER SULFA THERAPY IS INDICATED

Tablets: Each tablet contains 0.5 Gm. (7½ grains) of sulfamethoxypyridazine. Bottles of 24 and 100 tablets.

Syrup: Each teaspoonful (5 cc.) of caramel-flavored syrup contains 250 mg. of sulfamethoxypyridazine. Bottle of 4 fl. oz.

references:
1 Grieble, H.G., and Jackson, G.G.: Prolonged Treatment of Urinary-Tract Infections with Sulfamethoxypyridazine. *New England J. Med.* 258:1-7, 1958
2. Editorial: *New England J. Med.* 258:48-49, 1958.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

Lederle

*Reg. U.S. Pat. Off.

Now- All cold symptoms can be controlled



Provides Triaminic for more complete and more effective relief from nasal and paranasal congestion because of systemic transport to *all* respiratory membranes—without drawbacks of topical therapy.†

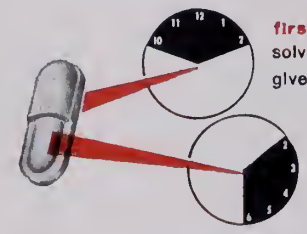
Provides well-tolerated APAP (N-acetyl-p-aminophenol) for prompt and effective analgesic and antipyretic action to make the patient more comfortable.

Provides Dormethan (brand of dextromethorphan HBr) for non-narcotic antitussive action on the cough reflex center in the medulla—as effective as codeine but without codeine's drawbacks.

Provides terpin hydrate, classic expectorant to thin inspissated mucus and help the patient clear the respiratory passages.

†Lhotka, F. M.: Illinois M. J. 112:259 (Dec.) 1957. Fabricant, N. D.: E. E. N. T. Monthly 37:460 (July) 1958. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

Special "timed release" design



first—the outer layer dissolves within minutes to give 3 to 4 hours of relief

then—the inner core releases its ingredients to sustain relief for 3 to 4 more hours

also available for those patients who prefer liquid medication: **Tussagesic suspension**

Each TUSSAGESIC tablet provides:

TRIAMINIC®	50 mg.
(phenylpropanolamine HCl	25 mg.
pheniramine maleate	12.5 mg.
pyrilamine maleate	12.5 mg.)
Dormethan (brand of dextromethorphan HBr)	30 mg.
Terpin hydrate	180 mg.
APAP (N-acetyl-p-aminophenol)	325 mg.

Dosage: One tablet in the morning, midafternoon and in the evening, if needed.

Tussagesic* *timed-release tablets*

*Contains TRIAMINIC to STOP running noses and open stuffed noses orally

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska • Peterborough, Canada



VITERRA® PEDIATRIC

METERED-FLOW BOTTLE

ALLOW 30 SECONDS BETWEEN DISPENSINGS

Special note to doctors who took this tour:

Problems of over- and under-dosage, spillage, spoilage or leakage disappear with VITERRA PEDIATRIC'S new Metered-Flow bottle. Why not consider these advantages when you recommend a vitamin supplement?

ROERIG Rx

New York 17, N. Y.
Division, Chas. Pfizer & Co., Inc.
Science for the world's well-being

Exactly how does new Halodrin* restore the "premenopausal prime" in postmenopausal women?

Webster defines "prime" as the period of greatest health, strength, and beauty. In a woman, these are the childbearing years between puberty and menopause—the years when her hormone production is highest.

The inevitable reduction in this hormone production as she enters the menopause often results in physical discomfort in the form of hot flushes, nervousness, insomnia, or a multiplicity of other symptoms with which you are familiar. Superimposed on this physical picture is the psychic trauma brought on by this unavoidable evidence of aging. The thing that brings her to a physician is simply that she "feels bad."

You can't make her 35 again—but the odds are good that you can make her feel like it! The secret is a combination of reassurance and hormones. The exact form and amount of the former defy objective analysis, but the latter can now be provided with scientific precision. Reduced to essentials, here is the explanation of exactly how hormones—in the form of Upjohn's new Halodrin—restore the "premenopausal prime."

The normal premenopausal woman excretes estrogens in the urine in the form of estradiol, estrone, and estriol, in an approximate 28-day average ratio of 39:15:46. Starting with this urinary excretion of estrogens, it is possible to calculate backwards and estimate the amount of estradiol that must have been secreted endogenously in order to produce these urinary levels. This is possible because the proportion of estrogens which appears in the urine following parenteral administration has been established in castrated women.

On this basis, the average endogenous output of estrogens is about 160 micrograms per day during a menstrual cycle, and 80 micrograms per day in postmenopausal women (see chart opposite). Therefore, the restoration of the "premenopausal prime" in the postmenopausal woman requires the replacement of approximately the equivalent of the 80 micrograms of estradiol per day that she no longer secretes endogenously.

Oral ethinyl estradiol is about 2 to 2½ times as potent as parenteral estradiol. Therefore, the replacement of 80 micrograms of endogenous estradiol production per day is accomplished by the oral administration of 32 to 40 micrograms of ethinyl estradiol per day.

Each Halodrin tablet contains 20 micrograms of ethinyl estradiol, which means that the recommended dosage of 2 tablets per day provides 40 micrograms of ethinyl estradiol. This offsets the loss of 80 micrograms of endogenous estradiol production in the menopausal woman; i.e., restores the "premenopausal prime."

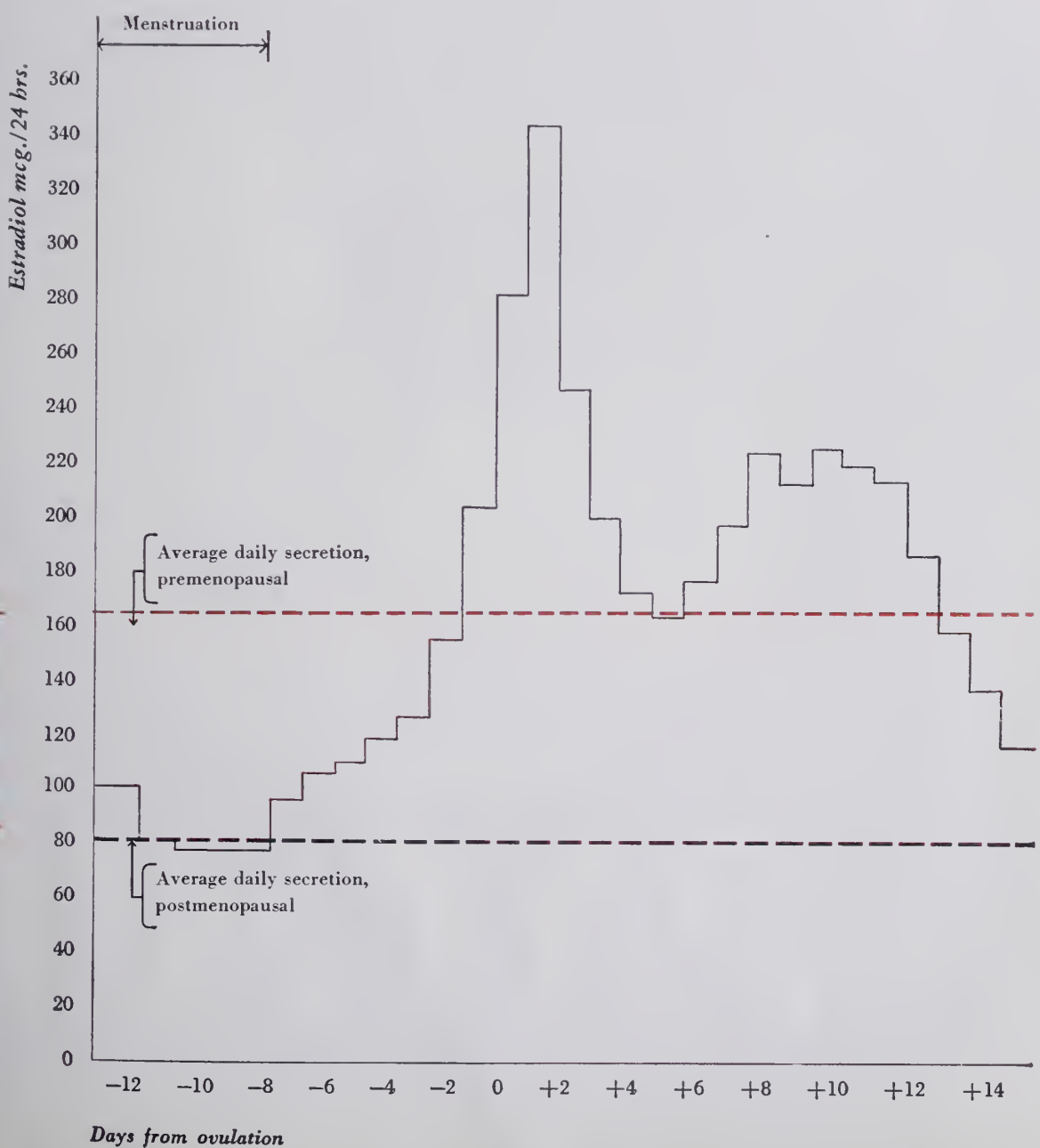
Each Halodrin tablet also contains 1 mg. of Upjohn-developed Halotestin* (fluoxymesterone)—the most potent oral androgen known. The primary purpose is to "buffer" the ethinyl estradiol just enough to prevent breakthrough bleeding, which is obviously undesirable in the menopause. It also exerts other beneficial hormonal effects, one of which, in common with ethinyl estradiol, is a powerful anabolic action so desirable in patients of advanced years.

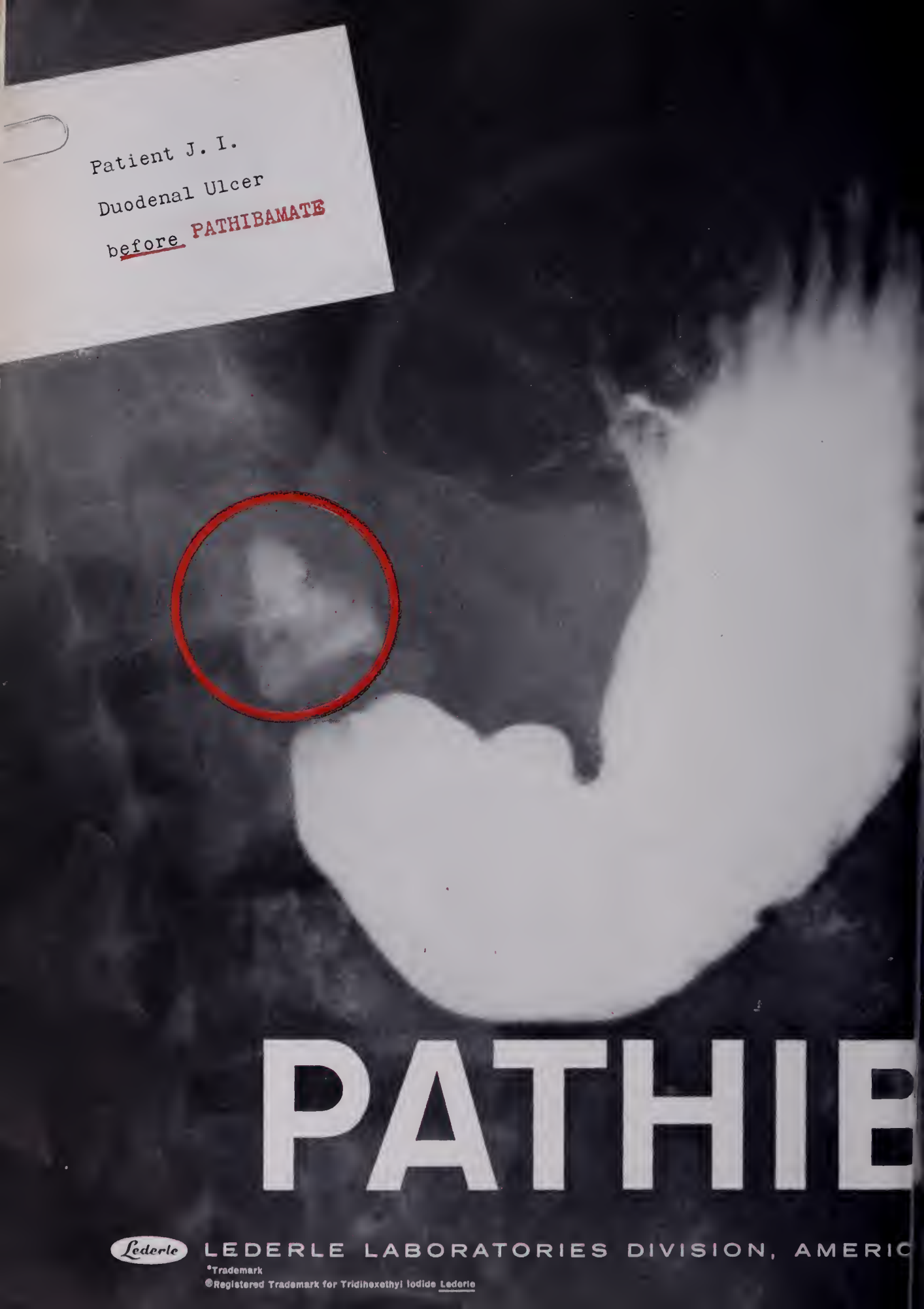
Upjohn

*TRADEMARK, REG. U. S. PAT. OFF.

COPYRIGHT 1958, THE UPJOHN COMPANY

Endogenous estrogen secretion (mcg./24 hours)
(calculated from average 24-hour urinary excretion of estradiol, estrone, and estriol)

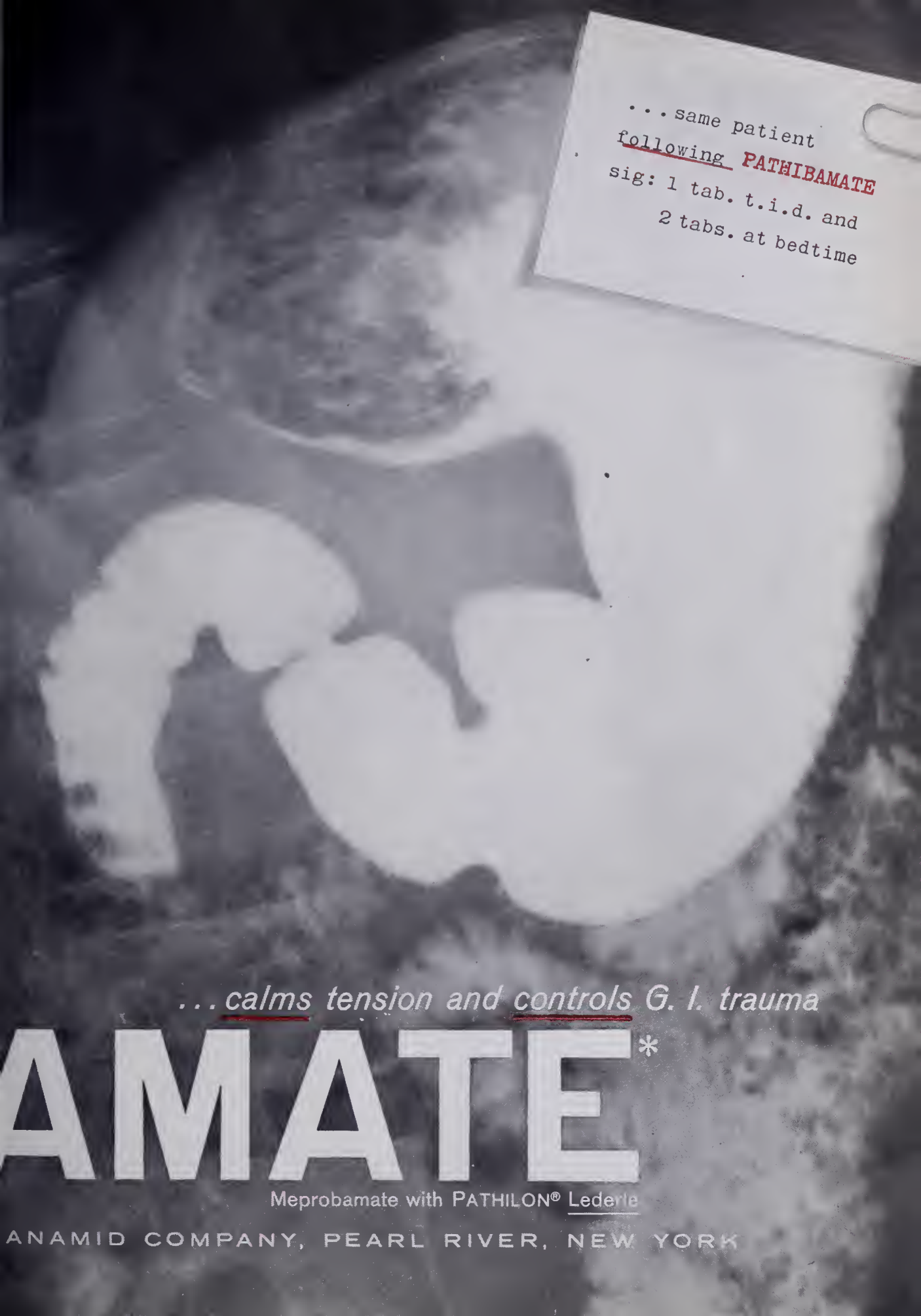




Lederle LEDERLE LABORATORIES DIVISION, AMERIC

*Trademark

©Registered Trademark for Tridihexethyl Iodide Lederle



. . . calms tension and controls G. I. trauma

AMATE*

Meprobamate with PATHILON® Lederle

ANAMID COMPANY, PEARL RIVER, NEW YORK



LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

PHYSICIAN WANTED

Due to the recent death of Dr. J. N. Brown, the Town of Campti is in serious need of a Medical Doctor to resume Dr. Brown's practice serving an area of over 5,000 people. Every assistance possible will be offered a Medical Doctor who is interested in a prosperous small town practice. Contact Mayor W. M. Crawford or Adrian Land, Chairman of Committee to Obtain a Medical Doctor in Campti, for details.

THE EARLE JOHNSON SANATORIUM

"In the Mountains of Meridian"

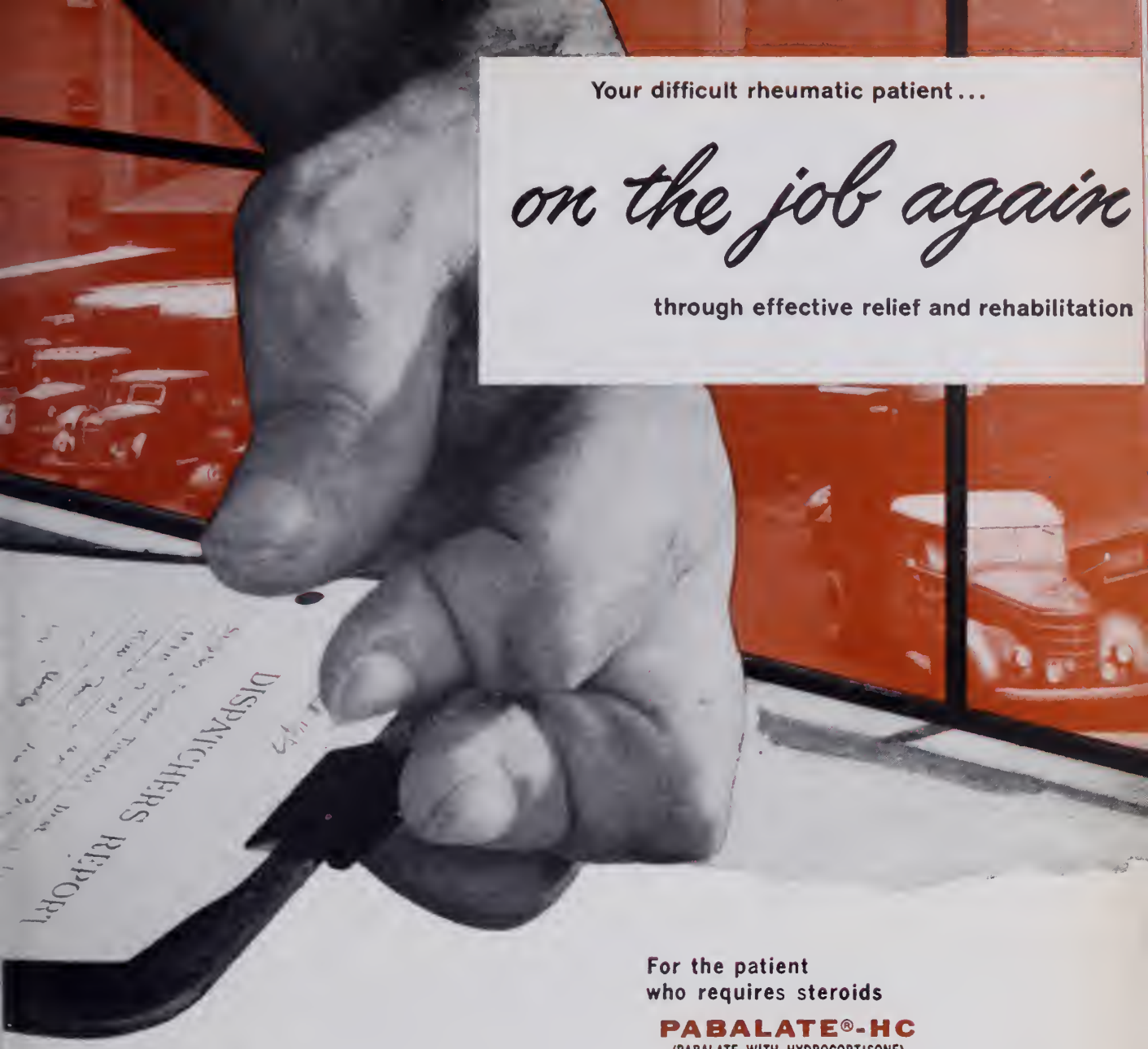
RAYMOND FARNHAM WAFER, M. D.
Psychiatrist-in-Chief

Diplomate in Psychiatry and Neurology of the American Board of Psychiatry and Neurology.

Specialized treatments in mental disorders and alcoholic and drug addictions, including:

Electro-convulsive therapy
Mid-brain stimulation
Deep insulin therapy
Psychotherapy
Geriatrics

Write P. O. Box 106
or
Telephone 3-3369
MERIDIAN, MISSISSIPPI



Your difficult rheumatic patient...

on the job again

through effective relief and rehabilitation

For the patient who does not require steroids

PABALATE®

Reciprocally acting nonsteroid antirheumatics . . . more effective than salicylate alone.

In each enteric-coated tablet:

Sodium salicylate U.S.P.....0.3 Gm. (5 gr.)
Sodium para-aminobenzoate .....0.3 Gm. (5 gr.)
Ascorbic acid .....50.0 mg.

or for the patient who should avoid sodium

PABALATE® - Sodium Free

Pabalate, with sodium salts replaced by potassium salts.

In each enteric-coated tablet:

Potassium salicylate .....0.3 Gm. (5 gr.)
Potassium para-aminobenzoate .....0.3 Gm. (5 gr.)
Ascorbic acid .....50.0 mg.

For the patient who requires steroids

PABALATE®-HC

(PABALATE WITH HYDROCORTISONE)

Comprehensive synergistic combination of steroid and nonsteroid antirheumatics... full hormone effects on low hormone dosage . . . satisfactory remission of rheumatic symptoms in 85% of patients tested.

In each enteric-coated tablet:

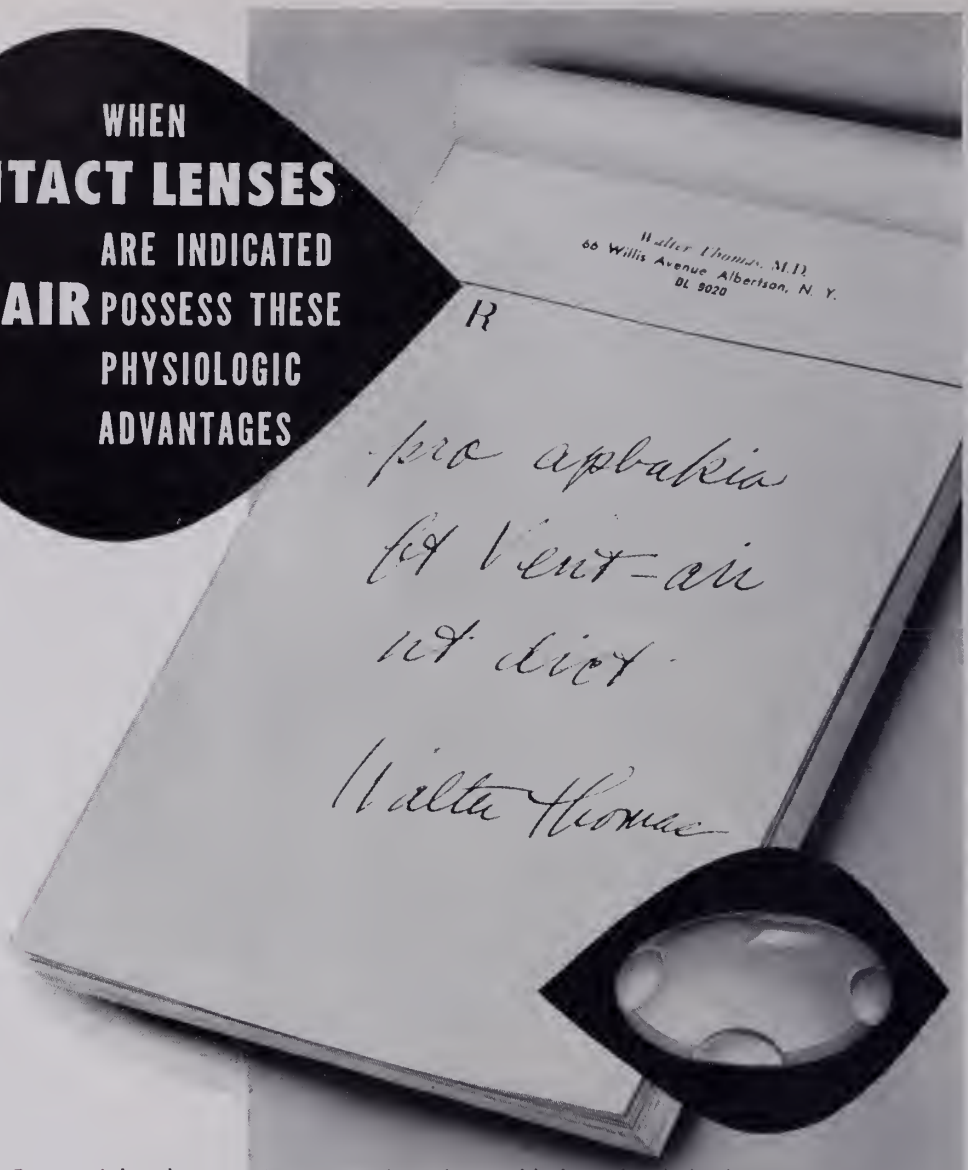
Hydrocortisone (alcohol) ..... 2.5 mg.
Potassium salicylate ..... 0.3 Gm.
Potassium para-aminobenzoate.. 0.3 Gm.
Ascorbic acid .....50.0 mg.

PABALATE® Robins PABALATE®-HC

For steroid or non-steroid therapy: SAFE DEPENDABLE ECONOMICAL

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA • Ethical Pharmaceuticals of Merit since 1878

WHEN **CONTACT LENSES** ARE INDICATED **VENT-AIR** POSSESS THESE PHYSIOLOGIC ADVANTAGES



Four peripheral vents	Permit topical circulation of lachrymal and glandular secretions without excessive motility
Corneal apical clearance	Favors normal corneal metabolism and oxygenation
Ultra-Smoothness of Inner and Outer Surfaces	Avoid limbal epithelial and torsal conjunctival exocerbation
Highly absorptive methyl-methacrylate composition	Simulates "wetting" and moisture-retention properties of corneo (of military specification)
Precision-ground	Prescriptive qualities exact to ± 0.12 D. with precise allowance for vertex refraction and lachrymal factor (exact to .02 mm radius in inner curvature)
Custom-fitted	In uni-, bi-, or tri-curve radii conforming to corneal peripheral asphericities
Hyper-thinness of edge or center	Maintains uniform thickness in high myopia or hyperopia approximating .20 mm irrespective of power
Widest range of inner radii	From 5.0 to 10.00 mm providing for extremes of kerotoconic and megologlobic dimensions
Cosmetic, pin-hole and tinted effects	For leucomatous, polyopic, iridodialytic and albinic conditions or other corneal or media anomalies.

VENT-AIR CONTACT LENS LABORATORIES • NEW YORK, N Y

Until the discovery of DECADRON* by MERCK SHARP & DOHME, when your diabetic patients were also in need of corticosteroid treatment, you were often faced with a difficult therapeutic dilemma. Diabetes mellitus was a recognized contraindication to the use of corticosteroids, since they not only aggravated the existing diabetic symptoms, but often precipitated latent diabetes.

NOW EVEN many diabetic patients may have THE FULL BENEFITS OF CORTICOSTEROID THERAPY

DECADRON—the new and most potent of all anti-inflammatory corticosteroids—is remarkable for its **virtual absence of diabetogenic effect** in therapeutic doses.



Decadron* DEXAMETHASONE

to treat more patients more effectively

In clinical trials with some 1,500 patients glycosuria was noted in only two, transitory glycosuria in another two, and flattening of the glucose tolerance curve in one. There were no instances of aggravation of existing diabetes, no increase in insulin requirements. Patients whose diabetes was severely aggravated on prednisolone showed good tolerance when transferred to DECADRON.

MORE patients can be treated with DECADRON than with other corticosteroids, because in addition to being practically free of diabetogenic activity, therapy with DECADRON is also practically free of sodium retention, potassium depletion, hypertension, edema and psychic disturbances. Cushingoid effects are fewer and milder. DECADRON has not caused any new or "peculiar" reactions, and has produced neither euphoria nor depression, but helps restore a "natural" sense of well-being.

*DECADRON is a trademark of Merck & Co., Inc., ©1958 Merck & Co., Inc.

MSD MERCK SHARP & DOHME
DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.



ILOPAN-CHOLINE TABLETS

Based upon the remarkable results obtained with ILOPAN (parenteral pantothenyl alcohol, W-T, for the management of post-operative distention due to flatus and feces), an oral form is now made available for ambulatory patients—ILOPAN-CHOLINE Tablets. And choline has been added as a precursor to all-important acetylcholine.

Clinical results with ILOPAN-CHOLINE Tablets in ambulatory patients, ages 20 to 80 years, have been surprisingly excellent . . . 90% effective according to three independent and separate clinical evaluations.

COMPOSITION: Each tablet contains Ilopan (brand of d-pantothenyl alcohol) 50 mg., choline bitartrate 25 mg.

INDICATIONS: Gas retention in the atonic gastrointestinal tract of ambulatory patients, geriatric digestive problems complicated by flatulence, laxative withdrawal.

DOSAGE: Two tablets three times daily. Three tablets three times daily in severe cases.

HOW SUPPLIED: Bottles of 100 and 500.

THE WARREN-TEED PRODUCTS COMPANY
COLUMBUS 8, OHIO
Dallas Chattanooga Los Angeles Portland

Proven

in over three years of clinical use
in over 600 clinical studies

Specific

FOR RELIEF OF ANXIETY
AND MUSCLE TENSION

Selective

Does not interfere with autonomic function
Does not impair mental efficiency,
motor control, or normal behavior
Has not produced hypotension,
agranulocytosis or jaundice

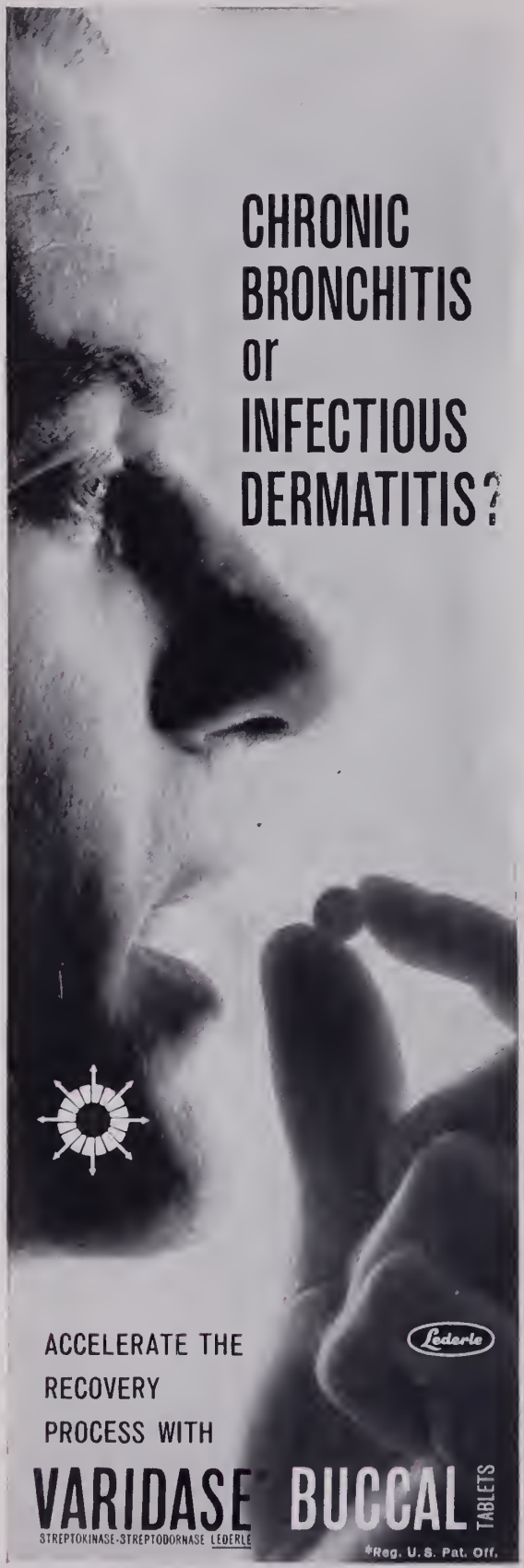
MEPROBAMATE (WALLACE)

Miltown®

Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets.

WALLACE LABORATORIES, New Brunswick, N. J.

CH-5043



LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY,
Pearl River, New York



"No patient failed to improve."[1]

pHisoHex washing added to standard treatment in acne produced results that "...far excelled... results with the many measures usually advocated."[1]

pHisoHex maintains normal skin pH, cleans and degerms better than soap. In acne, it removes oil and virtually all skin bacteria *without scrubbing.*

For best results—four to six washings a day with pHisoHex will keep the acne area "surgically" clean.

1. Hodges, F. T.: *GP* 14:86, Nov., 1956.

pHisoHex®

Sudsing nonalkaline antibacterial detergent—nonirritating, hypoallergenic. Contains 3% hexachlorophene.

Winthrop LABORATORIES
New York 18, N. Y.

A workhorse "mycin" for common infections



respiratory infections

prompt, high blood levels

consistently reliable and reproducible blood levels

minimal adverse reactions

With well-tolerated CYCLAMYCIN, you will find it possible to control many common infections rapidly and to do so with remarkable freedom from untoward reactions. CYCLAMYCIN is indicated in numerous bacterial invasions of the respiratory system—lobar pneumonia, bronchopneumonia, tracheitis, bronchitis, and other acute infections. It has been proved effective against a wide range of organisms, such as pneumococci, H. influenzae, streptococci, and many strains of staphylococci, including some resistant to other "mycins." Supplied as Capsules, 125 and 250 mg., vials of 36; Oral Suspension, 125 mg. per 5-cc. teaspoonful, bottles of 2 fl. oz.

new

CYCLAMYCIN®

Triacetyloleandomycin, Wyeth

PHYSICIANS' COUNCIL ON CHILD MEDICAL INFORMATION

Conforms to Code for Advertising

Wyeth®
Philadelphia 1, Pa.

BONADOXIN®

(tablets and drops)

STOPS STOPS STOPS MORNING SICKNESS



BONADOXIN Tablets relieve nausea and vomiting of pregnancy in 9 out of 10,[1-7] often within a few hours.

Moreover, a controlled study of 620 cases reported that with BONADOXIN "toxicity and intolerance [are] zero."[1] BONADOXIN is rarely soporific. It is free from the risks associated with overpotent tranquilizer-antinauseants.

NOTE: BONADOXIN has also been shown highly effective in relieving nausea and vomiting associated with: anesthesia, radiation sickness, Meniere's syndrome, labyrinthitis, cerebral arteriosclerosis, and motion sickness.

Each tiny pink-and-blue BONADOXIN tablet contains:

Meclizine HCl (25 mg.) . . . for antivertiginous, antinauseant effects.

Pyridoxine HCl (50 mg.) . . . for specific metabolic replacement.

DOSAGE: usually one tablet at bedtime. Severe cases may require another dose on arising.

SUPPLIED: tiny pink-and-blue tablets, bottles of 25 and 100. Fruit-flavored, clear green syrup in 30 cc. dropper bottles.

Infant colic? BONADOXIN DROPS are antispasmodic...stop colic in 84%,[8-10] without the risk of belladonna and barbiturates.

Each cc. contains:
Meclizine dihydrochloride . . 8.33 mg.
Pyridoxine hydrochloride . . . 16.67 mg.

Dosage:

under 6 months . . . . 0.5 cc.	2 or 3 times daily, on the tongue, in fruit juice or water
6 months to 2 years . . . . 1.5 to 2 cc.	
2 to 6 years . . 3 cc.	
adults and children over 6 . . . . . 1 tsp. (5 cc.)	

References: 1. Goldsmith, J. W.: Minnesota Med. 40:99 (Feb.) 1957. 2. Groskloss, H. H., et al.: Clin. Med. 2:885 (Sept.) 1955. 3. Welnberg, A., and Werner, W. E. F.: Am. Pract. & Digest Treat. 6:580 (April) 1955. 4. Crawley, C. R.: West. J. Surg. 8:463 (Aug.) 1956. 5. Tartikoff, G.: Clin. Med. 3:223 (March) 1955. 6. Dunn, R. D., and Fox, L. P.: Clinical exhibit. 7. Codling, J. W., and Lowden, R. J.: Northwest Med. 57:331 (March) 1958. 8. Dougan, H. T.: Personal communication. 9. Leonard, C. L.: Personal communication. 10. Steinberg, C. L.: Personal communication.

Rx Pfizer

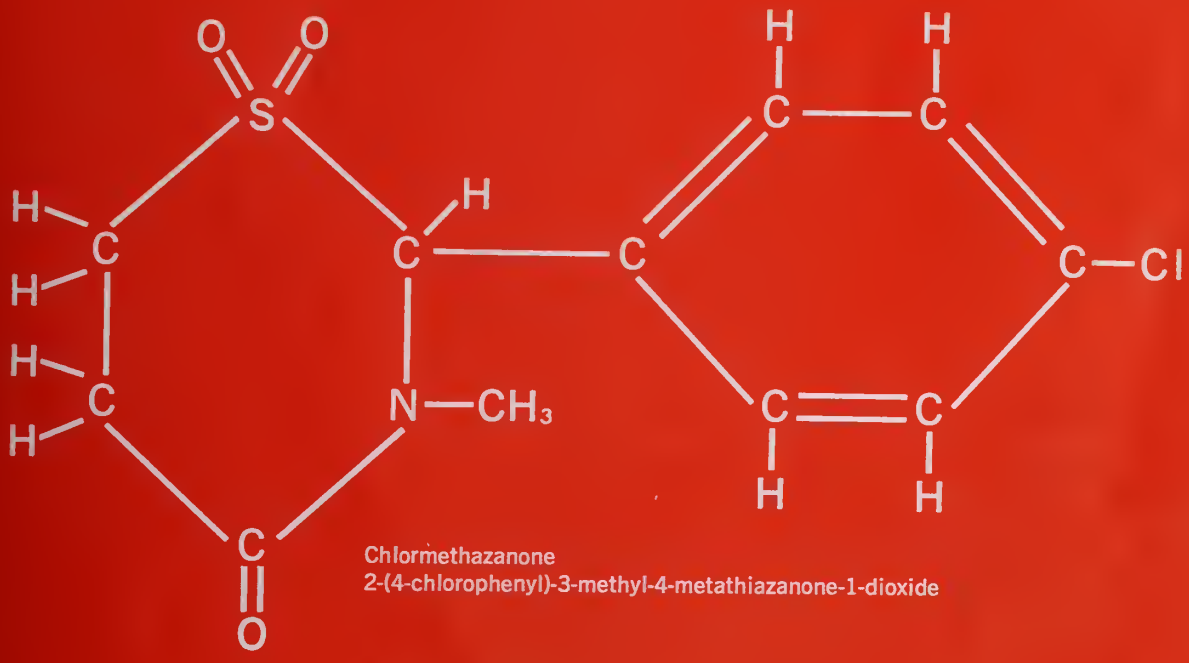
New York 17, N. Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being

Winthrop Laboratories
introduces

Trancopal

BRAND OF CHLORMETHAZANONE

a completely new major chemical contribution to therapeutics



Chlormethazanone
2-(4-chlorophenyl)-3-methyl-4-metathiazanone-1-dioxide

unrelated chemically to any other drug in current use

designed to be equally effective as both

a MUSCLE RELAXANT

a TRANQUILIZER

Trancopal

*the first true "TRANQUILAXANT"**

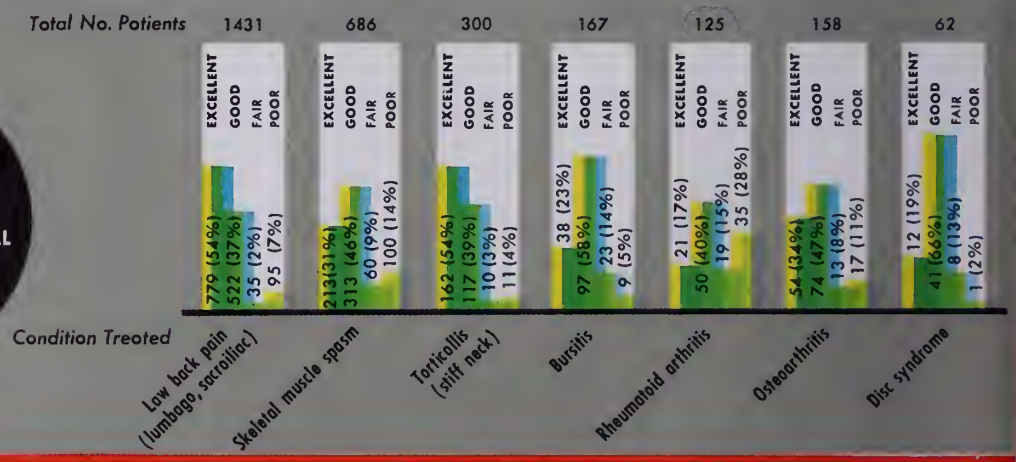
offering new freedom for your patients... from muscle spasm, from tension and anxiety, from side effects

* **tran-qui-lax-ant** (tran'kwi-lak'sant
[< L. tranquillus, quiet; L. laxare, t
loosen, as the muscles]

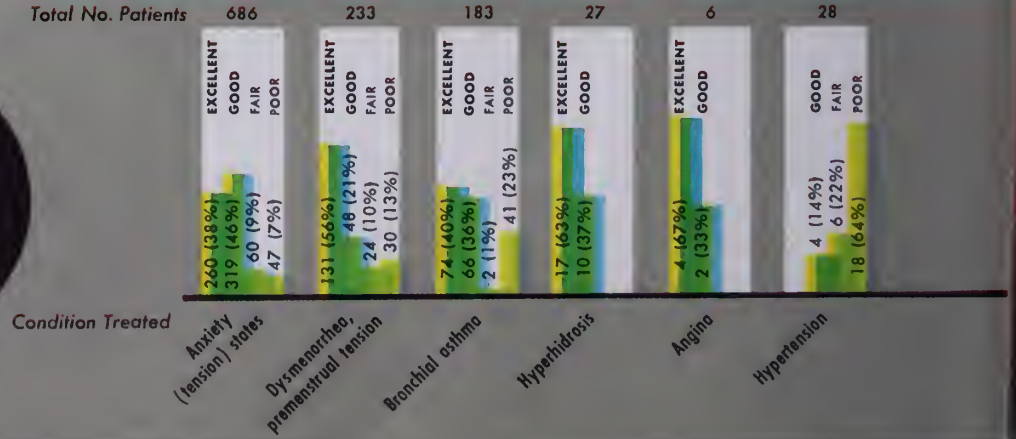
EXCEEDS OLDER DRUGS UP TO 4 TIMES IN PERCENTAGE OF CLINICAL EFFICACY (Lichtman

The results of clinical studies of over 4000 patients by 105 physicians demonstrate that TRANCOPAL often is effective whe other drugs have failed. From these studies it is clear that TRANCOPAL probably can provide more help for a greater number c tense, spastic, and/or emotionally upset patients than any other chemotherapeutic agent in current use.

TRANCOPAL
IN MUSCULOSKELETAL DISORDERS



TRANCOPAL
IN PSYCHOGENIC DISORDERS



TRANCOPAL ... the first true "tranquilaxant"

Both a muscle relaxant and a calmative agent.

In musculoskeletal disorders, 91 per cent effective.

In anxiety and tension states, 93 per cent effective.

Lower incidence of side effects than with zoxazolamine, methocarbamol or meprobamate.

No known contraindications. Blood pressure, pulse rate, respiration and digestive processes unaffected by therapeutic dosage. No effects on hematopoietic system or liver and kidney function.

Low toxicity. In animals, even less toxic than aspirin.

No gastric irritation. Can be taken before meals.

No clouding of consciousness, no euphoria or depression.

No perceptible soporific effect, even in high dosage.

CLINICAL RESULTS IN 4092 PATIENTS**



MUSCULOSKELETAL CONDITIONS
2929 Patients

+



PSYCHOGENIC CONDITIONS
1163 Patients

=



TOTAL 4092 Patients

MAJOR IMPROVEMENT
84%

**Cooperative Study, Department of Medical Research, Winthrop Laboratories.

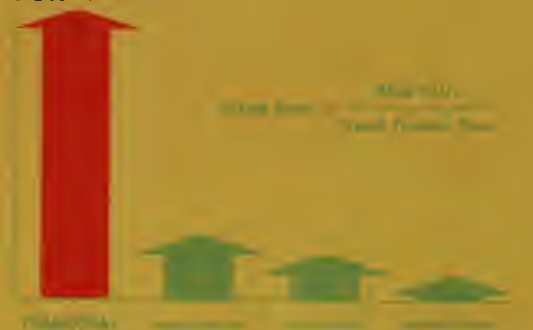
Compare Trancopal with 3 widely used central relaxants

FOR ACTIVITY



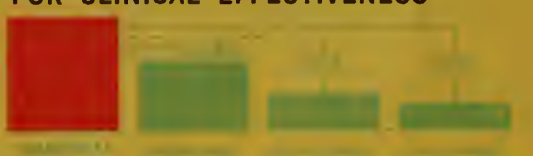
Considering the usual human dose, Trancopal, the first true "tranquilaxant," is four to ten times as potent per milligram.

FOR SAFETY



Comparative pharmacologic tests showed that Trancopal is up to thirteen times as safe, or up to thirteen times less toxic. The measure of safety was the LD_{50} in mice/usual human dose.

FOR CLINICAL EFFECTIVENESS



A clinical comparison in low back pain, torticollis, bursitis and anxiety states showed that Trancopal is up to four times as effective. Each of 40 patients received all four drugs in random rotation for several days. While each of the four drugs gave some relief, only the one providing the most effective relief was recorded.

INDICATIONS

Musculoskeletal
- Low back pain (lumbago)
- Neck pain (torticollis)
- Bursitis
- Rheumatoid arthritis
- Osteoarthritis
- Disc syndrome
- Fibrositis
- Joint disorders (ankle sprain, tennis elbow, etc.)
- Myositis
- Postoperative myalgias

Psychogenic
- Anxiety and tension states
- Dysmenorrhea
- Premenstrual tension
- Asthma
- Emphysema
- Angina

Neurologic
- Muscle spasm in paralysis agitans, multiple sclerosis, hemiplegia, poliomyelitis

TRANCOPAL thoroughly evaluated clinically

"In the treatment of conditions associated with skeletal muscle spasm there was a high percentage of satisfactory results (excellent, good or fair) in 310 patients (94%) out of 331 treated. . . . In 120 patients with simple anxiety or tension states results were satisfactory in 114 (95%). Dosage of chlormethazanone in all cases was 100 mg. t.i.d. As well as relieving the anxiety or tension state, chlormethazanone also allowed these patients to resume their usual occupations."

(Lichtman)

"The effect of this preparation in these cases [skeletal muscle spasm] was excellent and prompt . . ."

Trancopal ". . . was effective in relieving the symptoms of anxiety . . . [with a] profile of pharmacologic actions similar to meprobamate . . ."

(Mullin and Epifano)

"We have just started using it [Trancopal] for relaxing spastic musculature and are very much encouraged."

(Baker)

Trancopal

the first true "TRANQUILAXANT"

Dosage: One Caplet (100 mg.) orally three or four times daily. Relief of symptoms occurs in fifteen to thirty minutes and lasts from four to six hours.

Supplied: Trancopal Caplets® (scored) 100 mg., bottles of 100.

Winthrop Laboratories • New York 18, N. Y.

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(1) Estimate based on epidemiologic study by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122, Jan. 1933.

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A Special Report from Abbott
to the Medical Profession
on a Year's Clinical Experience
with SPONTIN®
(Ristocetin, Abbott)

In a Spanish province, a patient lay dying of endocarditis. A short wave radio appeal for SPONTIN was intercepted by a Baltimore physician. The antibiotic was immediately flown to this faraway land, and 10 days later—the patient had recovered.

In Chicago, a moribund patient had been administered 18 combinations of 10 different antibiotics without success. Involved was a hospital-acquired staphylococcal pneumonia – plus complications. SPONTIN was substituted and the patient lived.

A five-week-old infant was critically ill with staphylococcal enteritis. Treatment failures included erythromycin and chloramphenicol. Three days of SPONTIN saved this life. The list is long and impressive and it grows daily.

Recently, a study[1] was made of serious and resistant staphylococcal infections reported to Abbott Laboratories. Many of these cases had serious complicating diseases—many were moribund, or almost so, at the time SPONTIN was started. Yet, out of the 160 staphylococcal cases studied, 93 were reported cured and 38 improved after the administration of SPONTIN.

Out of the total of 251 patients with severe infections caused by gram-positive or mixed organisms, 149 were reported cured and 53 others improved. And the record for pediatric practice was every bit as good.

Additionally, SPONTIN continues to exhibit exceptional bactericidal activity against coccal infections[2]. And, according to another study, SPONTIN provides successful short-term therapy in endocarditis[3].

Only last October, at the Antibiotics Symposium in Washington, D. C., a panel of six leading antibiotic experts placed SPONTIN at the top of all other commercially-available antibiotics for treating serious staphylococcal infections. Also, six papers—all dealing with the effectiveness of ristocetin (SPONTIN®) in treating staphylococcal infections—were presented at the Symposium.

One of the most encouraging aspects of the year's literature on SPONTIN is the increasing testimony to its safety. As the months have passed and cases have accumulated by the hundreds, it has become apparent that careful attention to dosage recommendations has practically eliminated toxicity and side effects as serious obstacles to therapy. Also, recent improvements have been made in the manufacture of SPONTIN; the drug is now made from pure crystals.

A recent report[4] in the Journal of the American Medical Association concluded, "It is our opinion that, if proper precautions are observed, ristocetin is a [well tolerated] and potent agent to employ in the treatment of staphylococcal infections." And in another study, after successfully treating 28 patients with a variety of staphylococcal infections, the authors reported[5], "No serious complications were noted."

Few more dramatic records have been written in such a short space of time. SPONTIN has proved itself to be a good answer, perhaps the best answer at present, to the resistant staphylococcal problem – and of real value in other serious coccal infections. It may well be your answer when you're confronted with a serious infection.

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Excerpts from Reports Read at the Antibiotics Symposium

Spontin In Treating Severe Respiratory Infections —"In 13 of 20 patients the results were excellent, with clinical response being evident within one to four days after institution of therapy. In three additional patients, there was some degree of improvement in pneumonic processes superimposed on tuberculosis in two cases and on pulmonary neoplasm in one. In all other cases, serious antecedent pathology undoubtedly influenced the negative or equivocal response to ristocetin therapy.[6]"

Spontin In Treating Staphylococcal Infections—After successfully treating 28 patients, the authors wrote, "Ristocetin or Spontin has proved to be bactericidal and bacteriostatic, particularly for the *Staphylococcus aureus,* which is often resistant to many other antibiotics.[5]"

Spontin In Treating Seven Difficult Cases — "Ristocetin has produced excellent results in eradicating, mitigating or preventing infection in seven selected difficult cases. Six of the seven cases involved *Staphylococcus aureus* which did not respond to chemotherapy with other antibiotics.[7]"

Spontin Blood Levels In Children—"Ristocetin was administered as a single intravenous injection of 12.5 milligrams per kilogram. This resulted in serum levels ranging from 1.3 to 10.6 mcg. after two hours with a gradual fall to a level of 0.7 mcg. per cubic centimeter or less after 12 hours.[8]"

Spontin In Treating Staphylococcal Pneumonia —"Ristocetin was used in the treatment of 24 patients with staphylococcal pneumonia, 17 of whom had failed to respond to previously administered antibiotics. Complete clearing of pneumonitis was obtained in 16 patients and significant improvement occurred in two others. Two patients died of pneumonia; four others succumbed to other lethal diseases.[9]"

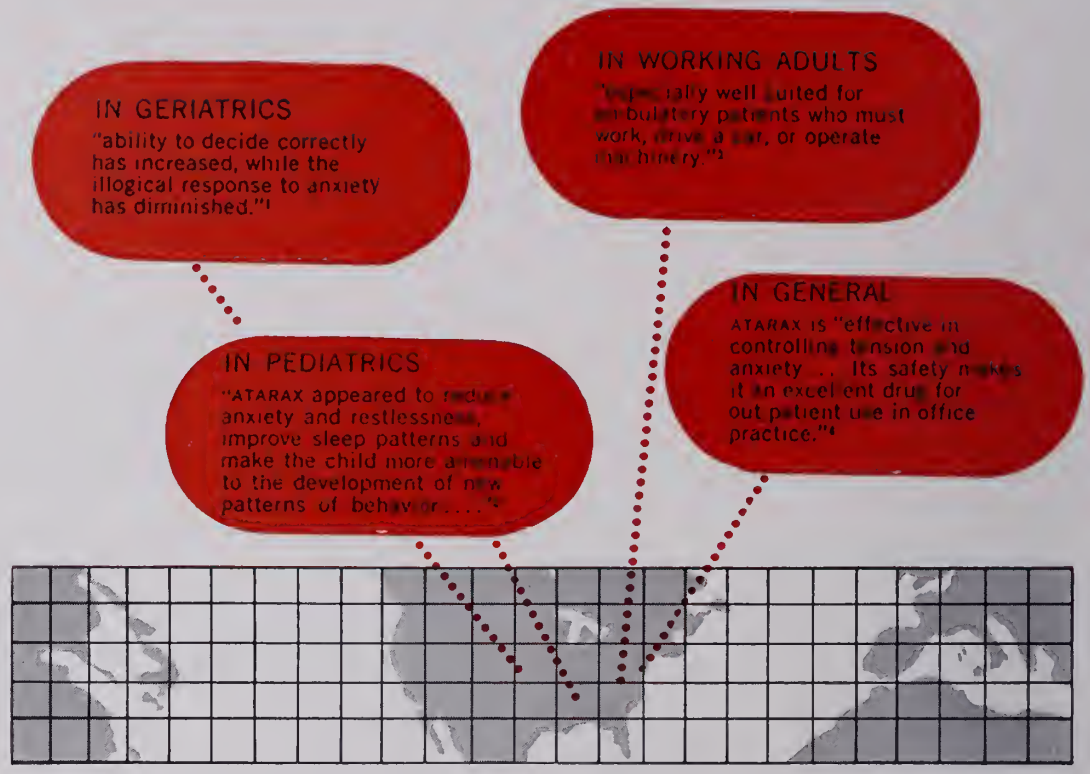
Spontin In Treating Children and Adults — "Ristocetin completely controlled severe staphylococcal infections in 11 adults and six children who received adequate therapy.[10]"

1. Totals represent published reports and personal communications to Abbott Laboratories.
2. Sixth Annual Symposium on Antibiotics, Washington, D. C., Oct. 15, 16, 17, 1958.
3. Romansky, M. J., and Holmes, R., Successful Short-Term Therapy of Enterococcal and Staphylococcal Endocarditis with Ristocetin–Seven Patients. Preliminary Report, Antibiotics Annual, 1957-58, p. 187.
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10. Terry, R. B., Ristocetin in Children and Adults, In Press, Antibiotics Annual, 1958-59.

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References: 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America 5:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. **57**:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. **58**:1684 (May 15) 1958. 5. Coirault, M., et al.: Presse méd. **64**:2239 (Dec. 26) 1956. 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

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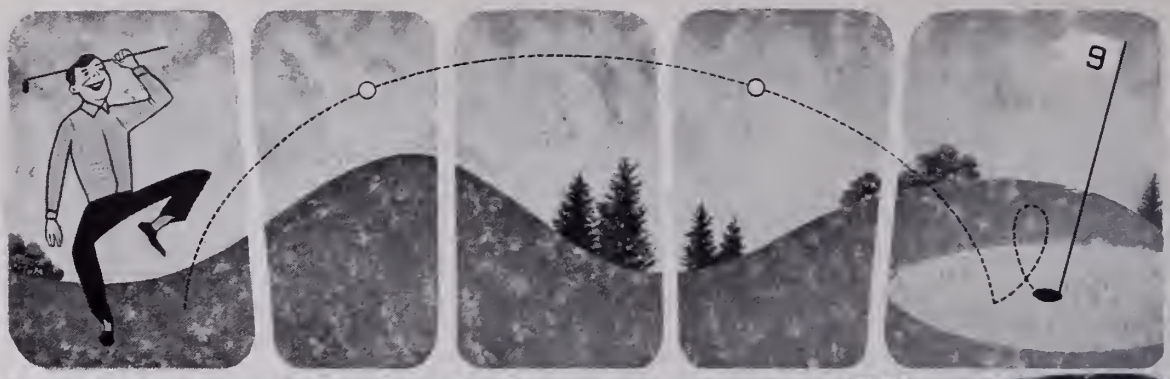
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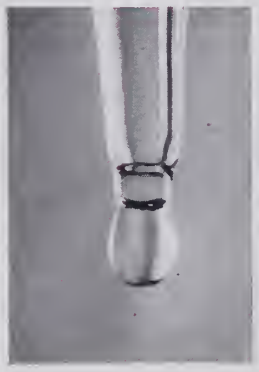
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[1]Sadove, Max S. and Schwartz, Lester: An Evaluation of Buffered Versus Nonbuffered Acetylsalicylic Acid, Postgraduate Medicine; 24:183, August, 1958.

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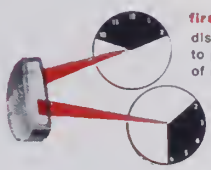
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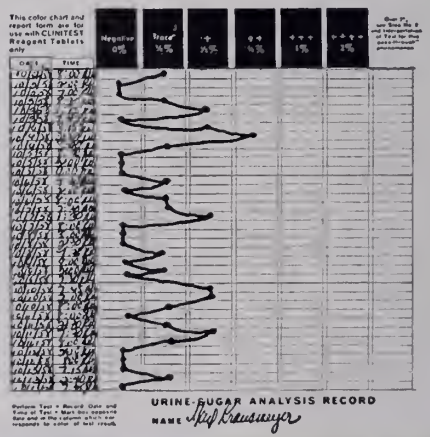
Blood sugar levels. In renal glycosuria they are normal; in untreated diabetes, fasting blood sugars are usually 130 mg.% or over and postprandial levels 170 mg.%, or more.

Source: Joslin, E. P.; Root, H. F.; White, P., and Marble, A.: The Treatment of Diabetes Mellitus, ed. 9, Philadelphia, Lea & Febiger, 1952, pp. 701-702.

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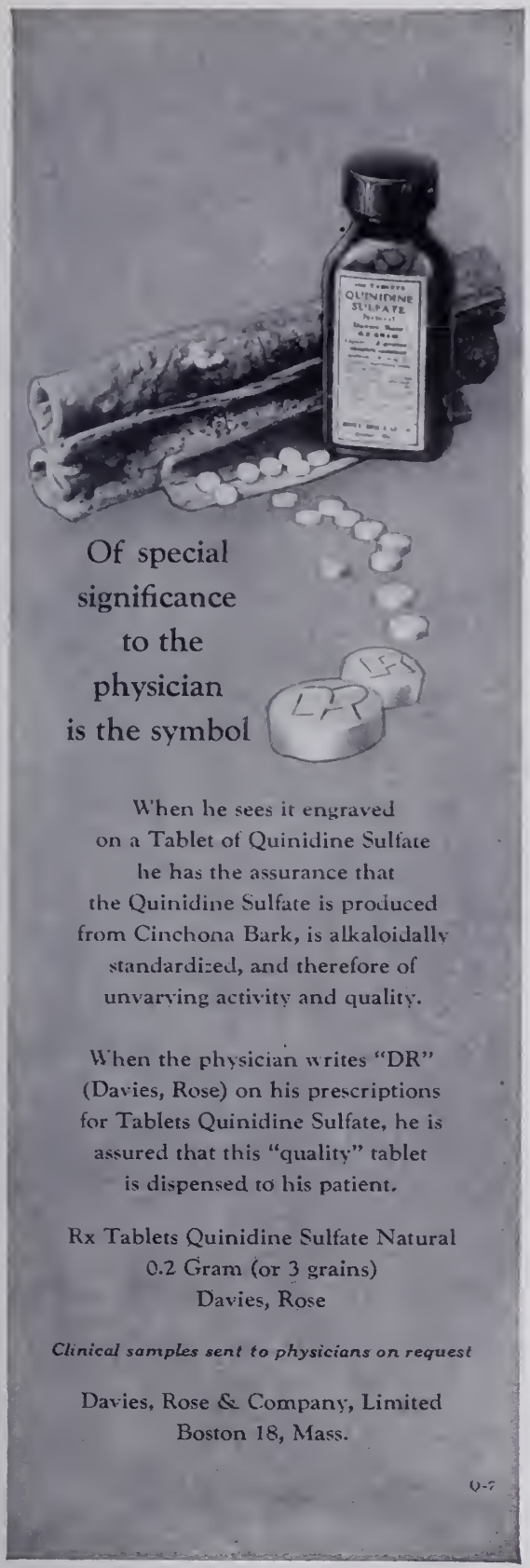
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References: 1. Finkelstein, Murray: Journal of Pharmacology and Experimental Therapeutics, in press. 2. Winkelstein, Asher: Paper in preparation.
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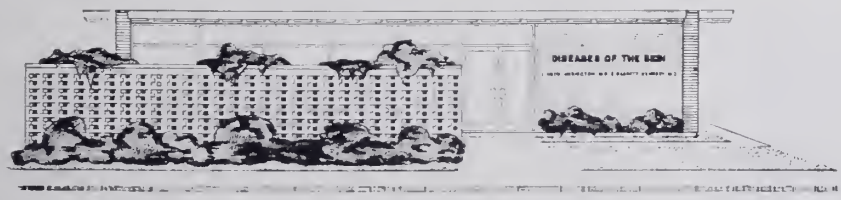
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References: 1. Hart, D.; Bagnall, A. W.; Bunim, J. J., and Polley, F. H.: Ninth International Congress on Rheumatic Diseases, Toronto, Ont. (June 25) 1957. 2. Report of Joint Committee, Medical Research Council & Nuffield Foundation, Treatment of Rheumatoid Arthritis, British Medical Journal (April 13) 1957. 3. Friend, D. G.: New England J. Med. 257:278 (Aug.) 1957.

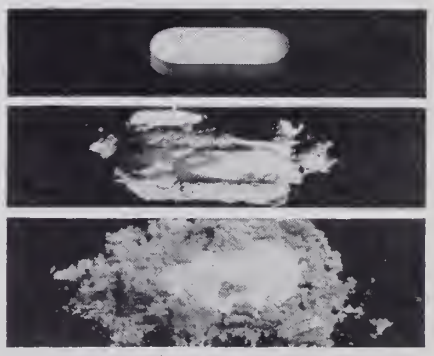
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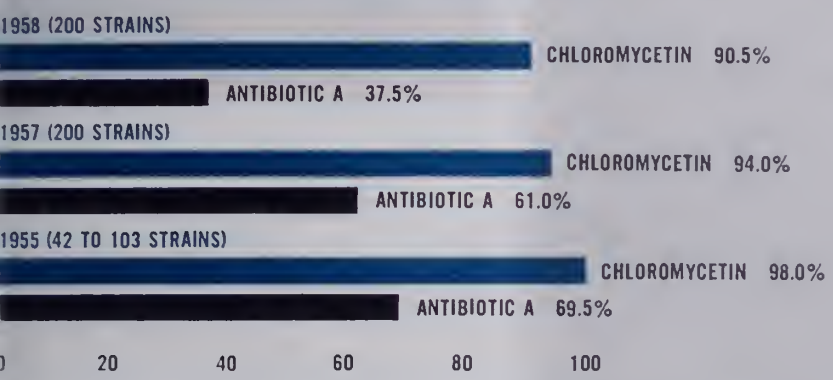
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REFERENCES: (1) Holloway, W. J., & Scott, E. G.: *Delaware M. J.* 30:175, 1958. (2) Roy, T. E., *et al.*: *Canad. M.A* 77:844, 1957. (3) Markham, N. P., & Shott, H. C. W.: *New Zealand M. J.* 57:55, 1958. (4) Royer, A., in Welch, H., Marti-Ibañez, F.: Antibiotics Annual 1957-1958, New York, Medical Encyclopedia, Inc., 1958, p. 783. (5) Blair, J. F & Carr, M.: *J.A.M.A.* 166:1192, 1958. (6) Caswell, H. T., *et al.*: *Surg., Gynec. & Obst.* 106:1, 1958. (7) Fekety, F. R *et al.*: *Am. J. Pub. Health* 48:298, 1958. (8) Godfrey, M. E., & Smith, I. M.: *J.A.M.A.* 166:1197, 1958. (9) Kessler, A. D & Scott, R. B.: *J. Dis. Child.* 96:294, 1958. (10) Shaffer, T. E.: *J. Michigan M. Soc.* 57:851, 1958.

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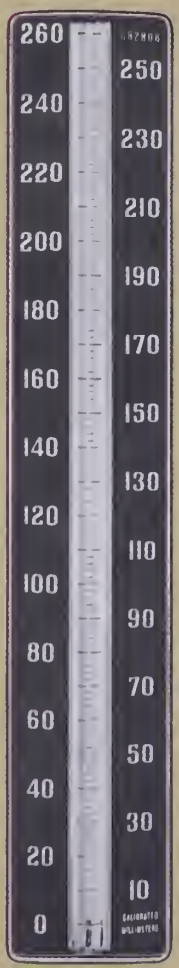
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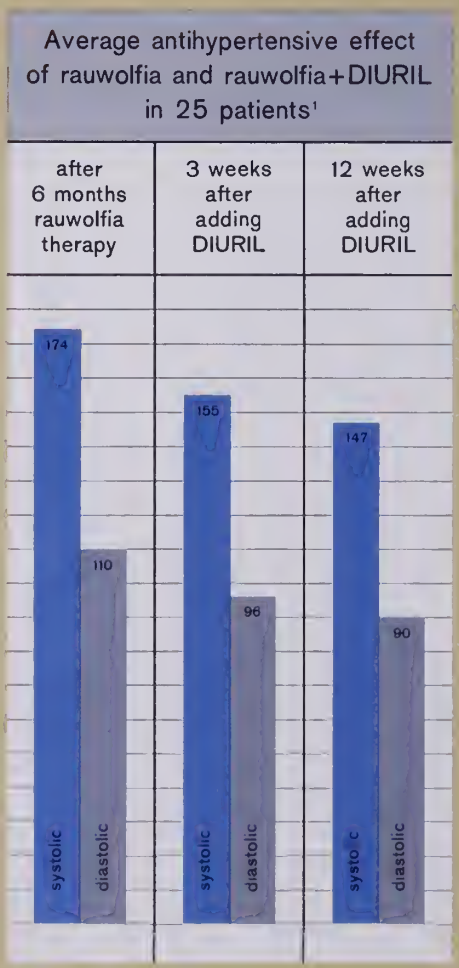
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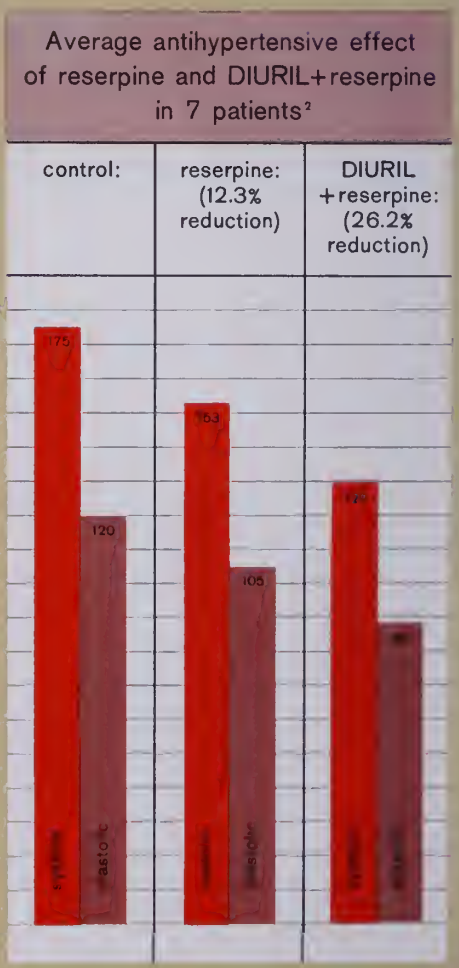
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DIUPRES minimizes the problem of weight gain seen with reserpine (reserpine alone has been reported to produce weight gain in 50 per cent of patients).[1,4]

virtually eliminates fluid retention

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> *"It may well be that the drug* [DIURIL] *produces the benefits of a markedly restricted low sodium diet but without its hardships."*[3]

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Instead of two separate prescriptions, you write one prescription . . . the patient takes one tablet, rather than two different tablets . . . and the dosage schedule is easier for the patient to remember and follow.

> *"patients have fewer lapses and make fewer mistakes in dosage, the simpler the regimen can be made. Therefore I do not hesitate to use more than one medicament combined in one tablet, provided this gives approximately the correct dosage of each."*[6]

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DIUPRES will cost the patient less than if he were given two separate prescriptions for its components.

Indications:

DIUPRES is indicated in hypertension of all degrees of severity. It can be used in the following ways:

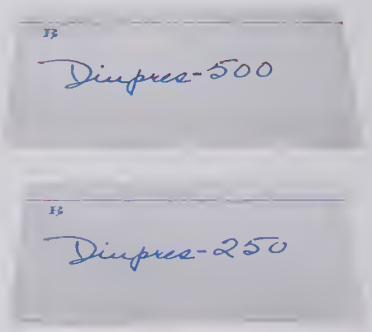
- as total therapy
- as primary therapy, adding other drugs if necessary
- as replacement or adjunctive therapy in patients now treated with other agents

Precautions:

The precautions normally observed with DIURIL or reserpine apply to DIUPRES. Additional information on DIUPRES is available to physicians on request.

Recommended dosage range:

DIUPRES-500—one tablet one to three times a day.
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If necessary, other agents may be added.
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250 mg. DIURIL (chlorothiazide), 0.125 mg. reserpine.
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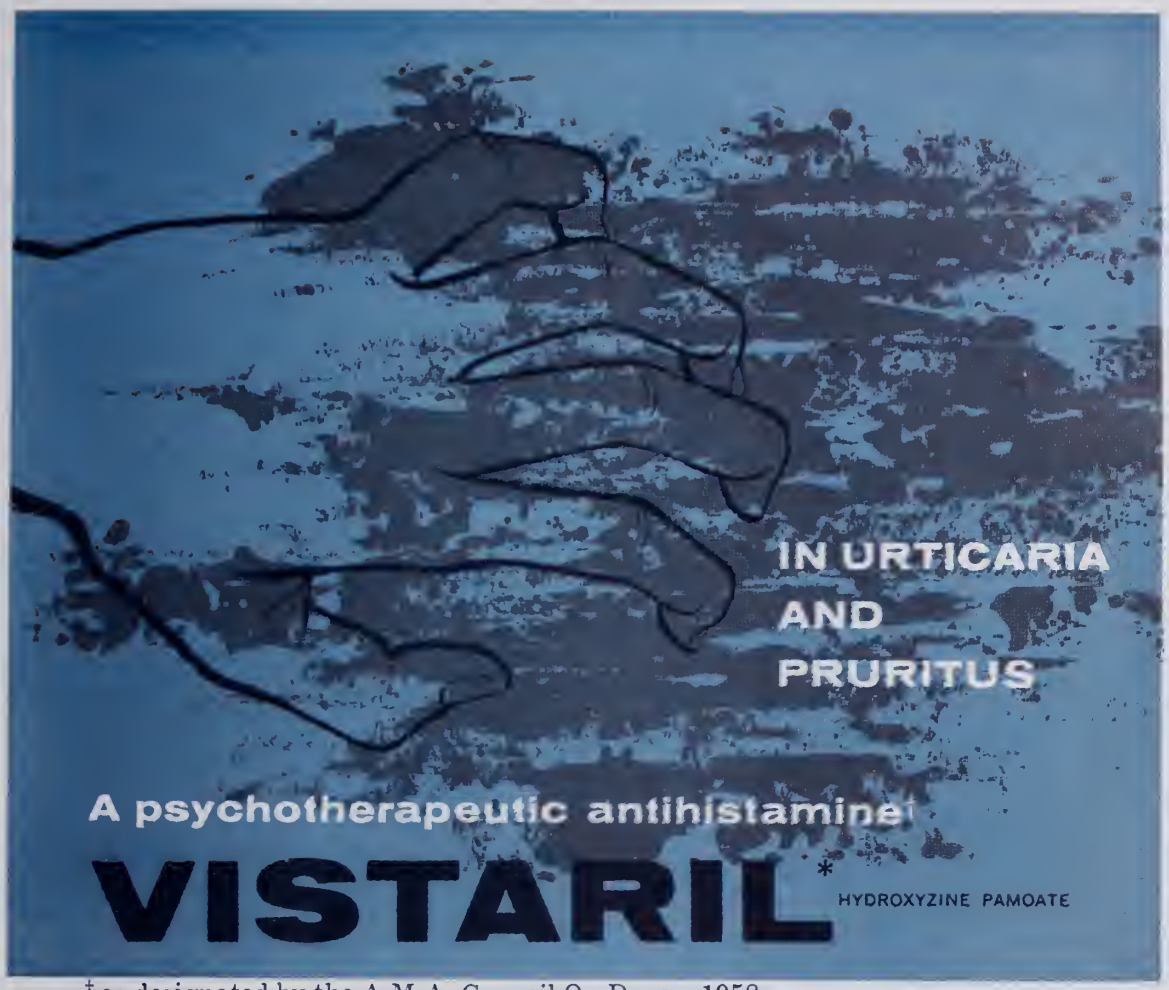
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Vistaril Parenteral Solution—10 cc. vials and 2 cc. Steraject® Cartridges, each cc. containing 25 mg. hydroxyzine (as the HCl)

References: 1. Feinberg, A. R., et al.: J. Allergy *29*:358 (July) 1958. 2. Eisenberg, B. C., Clinical Medicine *5*:897-904 (July) 1958. 3. Robinson, H. M., et al.: J.A.M.A. *161*:604-606 (June 16) 1958. 4. Robinson, H. H., et al.: So. Med. J. *50*:1282 (Oct.) 1957.

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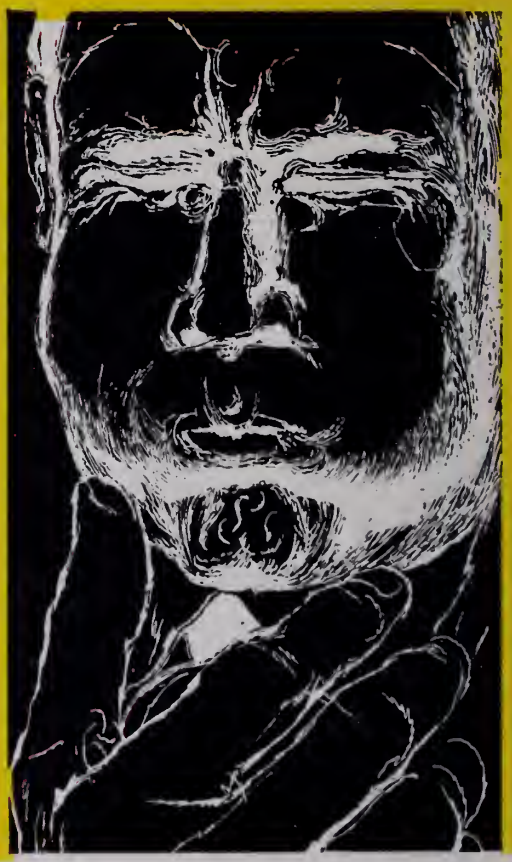

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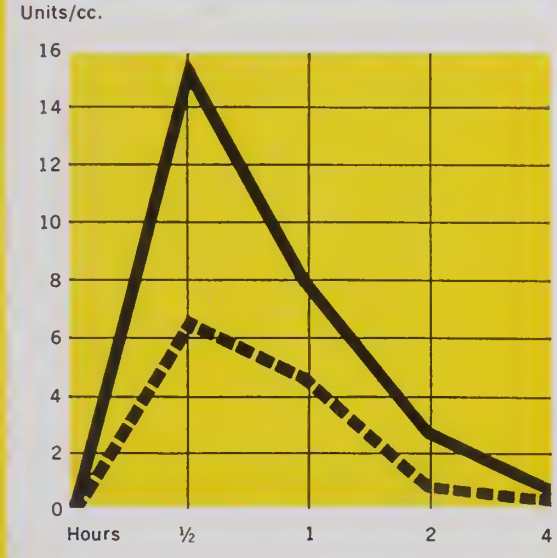
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COMPOCILLIN-VK Filmtabs: 125 mg. (200,000 units), bottles of 50 and 100; 250 mg. (400,000 units), bottles of 25 and 100.

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The highest levels of Filmtab Compocillin-VK.

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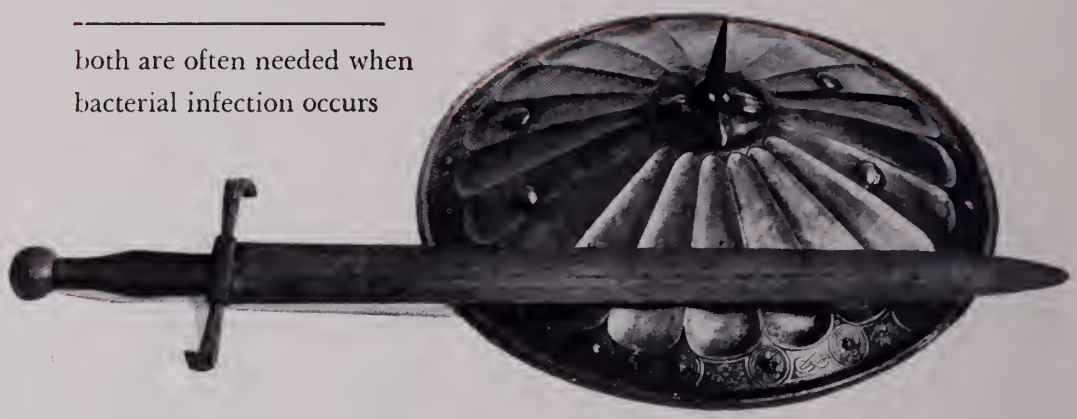
Note the high upper levels and averages at ½ hour, and at 1 hour.

Doses of 400,000 units were administered before mealtime to 40 subjects involved in this study.

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both are often needed when
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Mysteclin-V contains tetracycline phosphate complex

It provides a direct strike at all tetracycline-susceptible organisms (most pathogenic bacteria, certain rickettsias, certain large viruses, and Endamoeba histolytica).

It provides the new chemical form of the world's most widely prescribed broad spectrum antibiotic.

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for clinical results in 4092 patients *see inside*

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MUSCLE RELAXANT and TRANQUILIZER

clinical results in 4092 patients[5]

***tran-qui-lax-ant** (tran'kwi-lak'sant)
[< L. tranquillus, quiet; L. laxare, to loosen, as the muscles]

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"Chlormethazanone [Trancopal] not only relieved *painful muscle spasm*, but allowed the patients to resume their normal activities with no interference in performance of either manual or intellectual tasks."[2]

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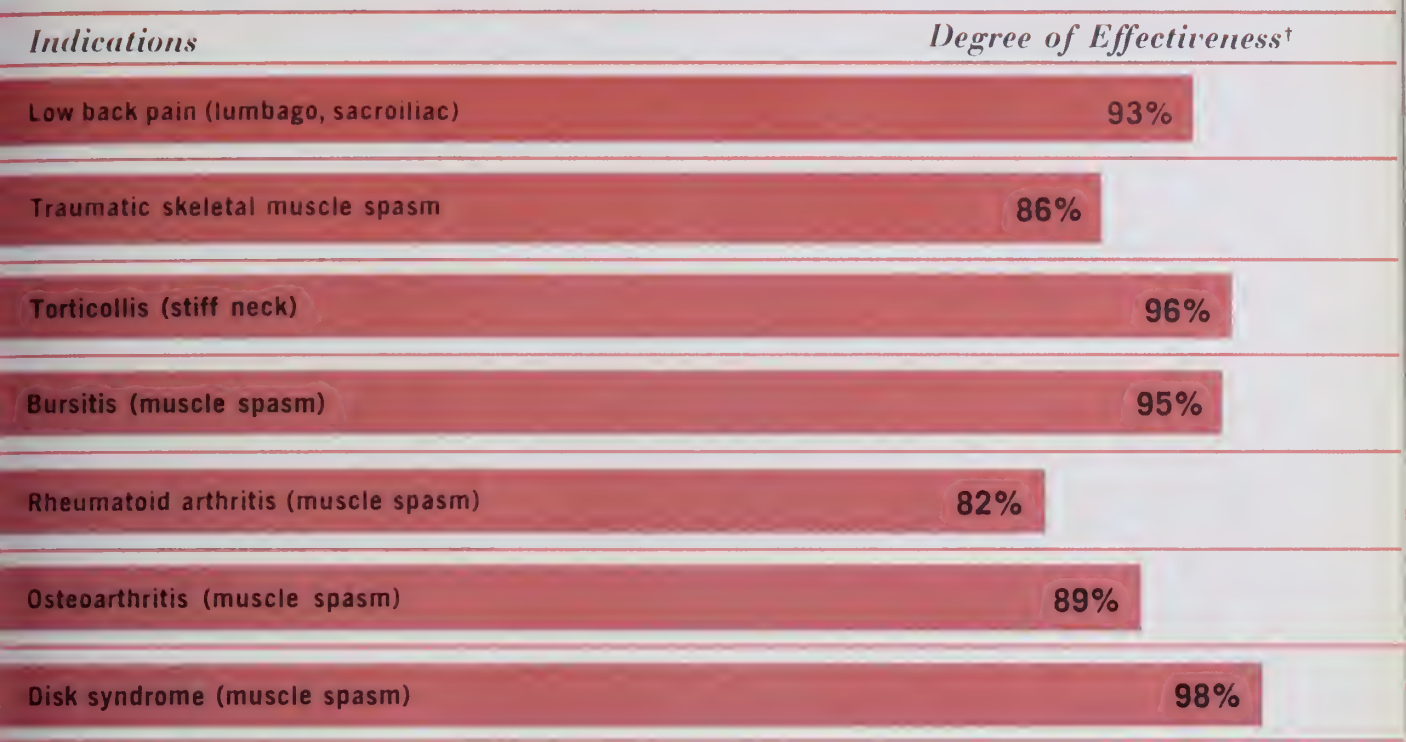
"The effect of this preparation in these cases [skeletal muscle spasm] was *excellent and prompt . . .*"[3]

Mullin and Epifano, Long Island College Hospital

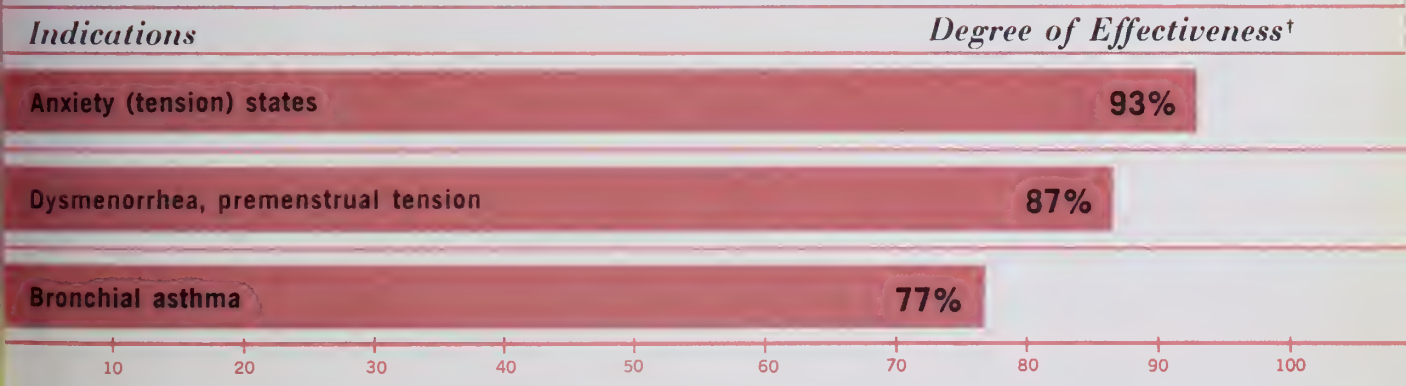
"In 120 patients with *anxiety or tension states*, 114 received satisfactory control of their condition. *Severe dysmenorrhea* and *premenstrual tension* in 65 patients refractory to the usual medications were relieved satisfactorily in 56."[4]

Lichtman

91% Effective in Musculoskeletal Disorders



89% Effective in Psychogenic Disorders



†*Excellent, good and fair*

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Dosage:
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Supplied:
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ADVANTAGES OF TRANCOPAL

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- No gastric irritation. Can be taken before meals.
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INDICATIONS

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Low back pain (lumbago)
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Bursitis
Rheumatoid arthritis
Osteoarthritis
Disk syndrome
Fibrositis
Joint disorders (ankle sprain, tennis elbow, etc.)
Myositis
Postoperative myalgias

Psychogenic
Anxiety and tension states
Dysmenorrhea
Premenstrual tension
Asthma
Angina pectoris

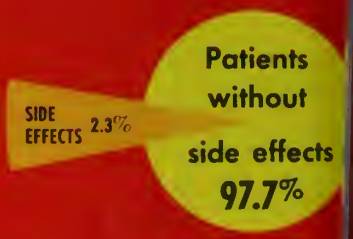
Neurologic
Muscle spasm (in paralysis agitans, multiple sclerosis, hemiplegia, cerebral palsy)

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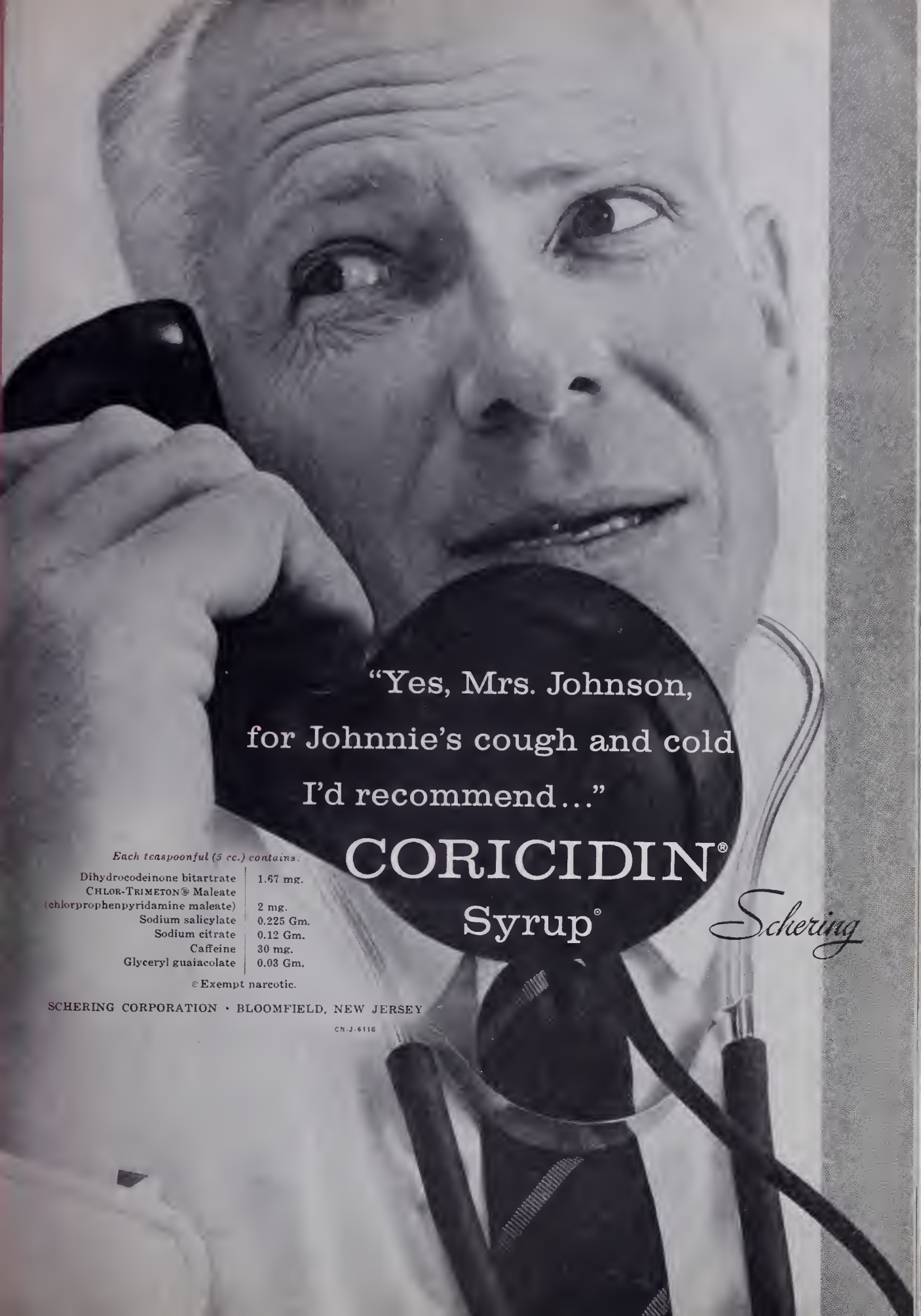
Trancopal Caplets (peach colored, scored) 100 mg., bottles of 100 and 1000.

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1 Baker, A. B. Drugs to relieve increased tonus, spasticity, and rigidity of muscles. Modern Med. 26:140, April 15, 1958. • 2 Lichtman, A. L. New developments in muscle relaxant therapy. Kentucky Acad. Gen. Pract. J. 4: 28, Oct., 1958. • 3 Mufin, W. G., and Epifano Leonard: To be published. • 4 Lichtman, A. L. To be published. • 5 Cooperative Study, Department of Medical Research, Winthrop Laboratories

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Surgery of the Gallbladder and Bile Ducts

• The author, who is of the Department of Surgery of the Lahey Clinic, Boston, presented this thorough and interesting study at the Annual Meeting of the Surgical Association of Louisiana, November 2, 1958, in New Orleans.

BENTLEY P. COLCOCK, M.D.
Boston, Massachusetts

FIRST, I should like to state what we consider to be the indications for surgery in cases of gallbladder disease. With few exceptions, any patient with gallstones or presumptive evidence of gallstones should have a cholecystectomy. By presumptive evidence I mean repeated attacks of right upper quadrant or epigastric pain with nonvisualization of the gallbladder on two or more roentgenologic examinations.

I am quite sure that some of our medical colleagues will consider this statement too comprehensive; they may question the need for surgical intervention in a patient who shows evidence of stones roentgenologically, but who is without symptoms, that is, the patient with so-called silent stones. There are several reasons for advising cholecystectomy in such cases. These patients may remain asymptomatic for years and then acute inflammation or hydrops of the gallbladder may develop. Because of the low-grade infection that is so commonly present, significant hepatic damage may occur over the years. Carcinoma of the gallbladder, with its extremely grave prognosis, is closely associated with long-standing cholecystitis and cholelithiasis.

Postponement of gallbladder surgery may be considered in a patient with gallstones who has only mild symptoms and who is over 65 or 70 years of age. All too often, however, these patients who have been advised not to undergo operation because of age, return two, three or five years later with a complication of gallbladder disease for which surgical treatment is mandatory. Much of the morbidity and the mortality associated with biliary tract surgery occurs in these elderly patients in whom a complication of cholelithiasis has developed. Cole [7] has aptly stated that "Old people cannot stand procrastination," and he feels that any patient with gallstones who has eight years or more of life expectancy should be submitted to cholecystectomy. The patient who has gallstones in addition to angina pectoris also poses a problem. Here again, we are inclined to agree with Cole [7] that unless the patient has had a recent coronary occlusion (within three

months) or has severe effort angina, cholecystectomy should be advised. Not infrequently the epigastric or precordial distress which has been attributed to the heart condition has really been caused by the cholelithiasis and the symptoms are relieved after cholecystectomy.

Acute Cholecystitis

In 10 per cent of our patients with biliary tract disease, acute or subacute cholecystitis was also present. The age range was 18 to 80 years. The 80 year old patient in whom an acute inflammation with perforation of the gallbladder developed had had gallstones for many years and had long been considered too old for operation. The seriousness of allowing patients who have gallstones to go without surgical treatment is emphasized by the fact that the operative mortality for patients over 50 years of age is five times that for patients under 50.

Pathology

The pathologic changes in acute cholecystitis are primarily the result of obstruction by a stone in the cystic duct. If this obstruction is prolonged, it inevitably leads to associated secondary infection and all too frequently to gangrene and perforation. This fact has a direct bearing on the controversial question of when these patients should be operated on. Perforation is most likely to occur between the fifth and the fourteenth day following the onset of the acute illness. In one study [10] of 612 patients with acute cholecystitis, the mortality rate for those patients in whom perforation had occurred was 25 per cent; the mortality for the remaining patients in whom perforation had not occurred was 0.7 per cent.

Treatment

Patients with acute cholecystitis should be operated on as soon as they can be adequately prepared unless the symptoms of pain, fever and tenderness are definitely subsiding. By adequate preparation I mean correction of dehydration, electrolyte imbalance and decreased blood volume. In the elderly patient, a survey of the glucose metabolism, cardiovascular and renal status is indicated. This is early surgery, but not emergency surgery. If evidence of associated acute pancreatitis is noted, we prefer to wait until this condition subsides unless there is definite evidence of sepsis. Eleven per cent of our patients with acute cholecystitis had associated acute pancreatitis. Perforation had occurred in 11 per cent.

At operation we remove the gallbladder unless the patient's status or the pathologic condition is such that cholecystectomy would be unduly hazardous. If it is necessary to resort to cholecystostomy, cholecystectomy should be carried out as a secondary procedure, preferably before the patient is discharged from the hospital. Despite the presence of an acute inflammatory condition, the need for choledochostomy must be considered just as in cases of chronic cholecystitis. Indeed, we have observed that these patients with acute disease are more likely to have common duct stones (24 per cent) than are patients with chronic inflammation of the gallbladder (11 per cent). Accurate dissection of the cystic artery and the junction of the cystic duct with the common hepatic duct is a necessary part of any cholecystectomy. If the operative conditions are such that cholecystectomy can be carried out safely, choledochostomy should also be feasible.

Mortality

Two deaths occurred in a group of 132 patients with acute or subacute cholecystitis who were operated on during a recent four-year period.[6] One was a 58 year old man with a perforated gallbladder who died of acute pancreatic necrosis. The operative procedure consisted of cholecystectomy and drainage of a pancreatic abscess. The second patient, a 65 year old woman who had had cholecystectomy and choledochostomy, died of a cerebrovascular accident with hemiplegia and coma on the fifth postoperative day.

Common Duct Stones

In our last review [6] dealing with gallbladder and common duct surgery, a common duct stone was present in 142 of 1356

patients—an incidence of 10.5 per cent. From the point of view of diagnosis, it is interesting to note that severe or moderately severe abdominal pain was present in 91.5 per cent of these patients; typical biliary colic in 71 per cent; jaundice or a history of jaundice in 63.4 per cent; acute nausea or vomiting in 68 per cent, and fever in 36 per cent. In recent years, intravenous cholangiography has been very helpful in making a diagnosis of common duct stones. This test is employed when stones in the common duct are suspected, if cholecystectomy has previously been performed, or if the gallbladder fails to visualize with the oral dye.

Indications for Choledochostomy

Choledochostomy was carried out in 498 cases or 36.7 per cent of this group of 1356 patients. Common duct stones were found in 142 instances or 28.5 per cent of the 498 patients in whom ductal exploration was carried out. Our indications for choledochostomy are as follows:

Jaundice. Jaundice was present or a history of jaundice was obtained in 208 cases (41.8 per cent) and stones were found in 43 per cent of these. The incidence of stones found would be much higher if choledochostomy were limited to those patients who were jaundiced at the time of operation or in whom the history of jaundice could be verified. However, we feel that in any patient with a history of jaundice, not obviously resulting from some other condition, the common duct should be explored at the time of cholecystectomy. While jaundice constitutes an indication for cholecystectomy, the absence of jaundice or a history of jaundice means little so far as exploring the common duct is concerned, since 50 per cent of patients with a stone in the common duct are not jaundiced and give no history of jaundice.

Dilatation. The common duct was dilated in 278 cases (56 per cent) and stones were found in 42 per cent of these patients. A definitely dilated common duct is always an indication for choledochostomy.

Pancreatitis. Acute or chronic pancreatitis was an indication in 41 cases (8 per cent) and stones were found in 49 per cent of these. Not only does pancreatitis frequently indicate the presence of a common duct stone, but dilatation of the sphincter of Oddi may be very helpful in these cases and the findings at choledochostomy may point out the need for sphincterotomy.

Palpable Stones. While stones in the common duct are only occasionally palpable (2 per cent of the 498 patients), this finding should always indicate the need for choledochostomy. Common duct stones were found in all of the patients in whom they were suspected as a result of palpation of the duct.

Small Stones in Gallbladder. The presence of small stones in the gallbladder was one of the indications for choledochostomy in 167 patients (34 per cent of the group) and common duct stones were found in 42 of these cases (25 per cent). Small stones in the gallbladder, particularly in the absence of any other indication for choledochostomy, is the least reliable of these indications for choledochostomy. If no other indications are present, I frequently do not explore the common duct unless the diameter of the stones in the gallbladder is less than that of the cystic duct. In this situation operative cholangiography may be helpful, but we must remember that stones of this size are easily missed on cholangiographic examination.

Procedure

As has been indicated above, operative cholangiography is not used routinely at the clinic. We have long felt that if the indications for exploring the common duct are sufficiently broad, and if those ducts are carefully and thoroughly explored at the time of choledochostomy, it is not likely that common duct stones will be overlooked. It is also extremely important that the patency of the sphincter of Oddi be demonstrated every time the common duct is opened. If any difficulty is encountered in passing the dilators through the sphincter, the duodenum and head of the pancreas are mobilized so that ob-

struction to the dilator or sound as a result of angulation of the duct can be easily corrected. If it is still impossible to pass a 3 mm. dilator into the duodenum, transduodenal sphincterotomy is indicated.

We have attempted to evaluate this policy in the light of actual experience.[5] The problem of retained common duct stone is primarily related to the patient in whom common duct stones have previously been removed. Smith et al.[9] reported retained stones after cholecystectomy alone in 0.8 per cent of their patients, in 1 per cent after common duct exploration when stones were not found, and in 11 per cent of patients following choledochostomy at which time stones had been found in the common bile duct. We selected a group of 100 consecutive patients who had undergone choledochostomy at the clinic because of common duct stones. Follow-up studies of four to six years were carried out in 94 of these patients. Three patients in the group required reoperation—one because of cholangitis, and two because of retained or recurrent common duct stones. This incidence of 2.1 per cent compares favorably with the occurrence rate of retained common duct stones reported in the literature with or without the use of operative cholangiography. In both instances of retained common duct stones, dilatation of the sphincter and removal of the stones had been carried out at the first operation. We now believe that transduodenal sphincterotomy should be carried out in any patient who is being operated on for persistent or retained common duct stones. We have not been overly concerned about the number of negative findings on exploration of the common duct since, in our experience, choledochostomy, *per se*, does not increase mortality. The mortality rate for cholecystectomy alone and for cholecystectomy with negative choledochostomy is 0.9 per cent.

Stenosis of the Sphincter of Oddi

Stenosis of the sphincter of Oddi is now accepted as a clinical entity which is capable of producing severe biliary tract symptoms. When Dr. Cattell and I reported our first group of 49 cases before the Southern Surgical Association in 1952,[3] there was still considerable doubt as to the existence of such a condition which, by itself, could lead to attacks of severe abdominal pain. We presented a second group of 100 consecutive cases before the New England Surgical Society in 1956.[4] In discussing this paper, one eminent surgeon stated that he felt stenosis could occur only as the result of inflammation, secondary to instrumentation of the common duct or to an impacted stone at the lower end of the duct. It is of interest that at the last meeting of the Society, this same surgeon presented experimental work to support the thesis that partial obstruction at the lower end of the common duct can cause pain, liver damage and the formation of common duct stones. Many years ago, Allen and Wallace [1] emphasized the value of dilatation of the sphincter in patients who required exploration of the common duct for stones. More recently, Brush and his co-workers [2] reported a follow-up study of 200 patients who had previously undergone choledochostomy. No residual or reformed stones were found in those patients in whom the sphincter of Oddi had been dilated. Residual or reformed stones were found in 10 per cent of those patients in whom dilatation had not been performed. Cole [7] has recently stated that in his experience stenosis of the sphincter of Oddi is now the most common cause of severe upper abdominal pain following cholecystectomy.

Diagnosis

In this second group of 100 patients cited above, severe right upper quadrant pain was reported in 84 per cent; jaundice or a history of jaundice was present in 46 per cent; the common duct was dilated in 68 per cent; calculi were found in 38 per cent, and detritus was present in the common duct in 13 per cent. Cholecystectomy had previously been carried out in 81 per cent of these patients.

The possibility of stenosis of the sphincter of Oddi must always be considered in any patient who has undergone cholecystectomy and who presents these symptoms.

In recent years intravenous cholangiography has been very helpful in making this diagnosis. This procedure was used in the last 47 patients in this group and a diagnosis of obstruction was made in 33 of 37 visualized ducts (89 per cent). As you know, the concentration of Cholografin in bile is 30 to 100 times the concentration in the blood. Since jaundice (in itself an indication of common duct obstruction) was present in many patients in whom the ducts could not be visualized, intravenous cholangiography is of greatest help in those patients in whom it is most needed.

Wise [11] of our Department of Radiology has reported our experience with intravenous cholangiography in over 300 patients. No serious vasomotor reactions were observed. The visualization rate will vary with the selection of cases, depending largely upon the presence and degree of jaundice. In this group, it was possible to visualize the common duct in 82 per cent of the patients who had previously undergone cholecystectomy. Correlating the findings on intravenous cholangiography with the operative findings, Wise [11] found that obstruction at the ampulla was demonstrated at operation in all ducts which measured 15 mm. or more in diameter, while no obstruction was found in ducts measuring 8 mm. or less in diameter. However, the ducts measured between 8 and 15 mm. in 57 per cent of the patients, and it is in this group of equivocal cases that he feels the time-density relationship is significant. The failure of the dye in the duct to show a decided decrease in density at the end of two hours was a dependable indication that obstruction was present.

Treatment

A diagnosis of stenosis of the sphincter of Oddi is made if a 3 mm. dilator cannot be passed easily into the duodenum. In the past many of these patients were treated by dilatation of the sphincter with graduated Bakes dilators and the implantation of a long-arm T tube passing through the sphincter into the duodenum. This tube was left in place for six to eight weeks. We now feel that transduodenal sphincterotomy, with or without a long T tube, is the best treatment for patients with stenosis of the sphincter. Two deaths occurred in this second group of 100 patients. One was an elderly patient who suffered a cerebrovascular accident, and the second was a woman with far advanced biliary disease who had bleeding from esophageal varices. Ninety per cent of the 49 patients described in 1952 were reported as having a good result at that time. In 1956, a six year follow-up of these patients revealed that none had required further surgical intervention because of recurrence of symptoms.

In the second group of 100 patients, 81 per cent were free of symptoms two years or more after operation. The results in 9 cases were classified as fair: that is, upper abdominal distress was still present, but severe attacks of pain no longer occurred. The results in 8 cases were classified as poor: pancreatic necrosis developed in 2 patients, one of whom subsequently died (15 per cent of the entire group were found at operation to have evidence of unsuspected pancreatitis.) Two other patients have experienced recurrent pain, but show no evidence of common duct obstruction on the intravenous cholangiogram. The pain was believed to be neuritic in origin. One patient was found to have a papillary adenocarcinoma of the ampulla seven months after operation for which pancreaticoduodenectomy was carried out. One patient died later of hepatic insufficiency. One patient who had undergone dilatation of the sphincter later required transduodenal sphincterotomy and has remained well for one year. Another patient required a subsequent operation for choledocholithiasis, and has remained well since the sphincterotomy.

Common Duct Stricture

It is now twenty-eight years since Dr. Lahey's [8] first report on strictures of the common duct. At the present time, we have carried out over 1000 operations on more than 700 patients with this con-

dition. The long period of morbidity, the need for repeated operations, and the early and late mortality associated with common bile duct strictures are all avoidable since the great majority (in our experience over 90 per cent) are caused by operative injury at the time of cholecystectomy. The extreme seriousness of this complication of biliary tract surgery is indicated by the fact that when the common duct has been cut, clamped or tied, there is a 30 per cent chance that the patient will eventually die as a direct result of this accident.

Diagnosis

We have learned to suspect the presence of common duct stricture when we obtain a history of the development of jaundice, bile peritonitis, or profuse drainage of bile immediately following cholecystectomy. It must also be considered in the differential diagnosis of a patient who has had a cholecystectomy and is having recurrent attacks of fever, pain and jaundice. In many of these cases, an internal biliary fistula develops between the obstructed common duct and the duodenum. Drainage of bile through the fistula permits the fever, pain and jaundice to subside. Unfortunately, these fistulas eventually close and the symptoms recur. For this reason, some of these patients may be relatively free of symptoms for months or even years following cholecystectomy—a fact which may hide the relationship of the operative procedure to the pathologic condition which is present.

Prevention

The most important aspect of the problem of common duct stricture is its *prevention*. The frequency with which this serious complication of biliary tract surgery is encountered today is a serious reflection on the over-all quality of modern surgery. Judging from the histories of our patients, it occurs most frequently during the removal of the small, shrunken, chronically inflamed gallbladder when the relationship of the cystic artery and bile ducts is considerably distorted. Cole [7] has stated that it is most likely to occur during the removal of an extremely mobile gallbladder when enough associated inflammation is present to obscure the anatomic structures. The importance of an adequate incision, adequate relaxation plus adequate light and skillful assistance during the performance of cholecystectomy must be repeatedly emphasized. In many instances the duct has been injured during a hurried attempt to control severe bleeding from the cystic artery or portal vein. In cases of hemorrhage from the hepatic artery, a clamp may be accurately applied after the bleeding has been controlled by pressure on the artery with the thumb in front and the index finger inserted in the foramen of Winslow. The maintenance of firm pressure over a period of a few minutes will slow venous bleeding so that it can be controlled without injury to the common duct. The many variations that may be encountered in the relationship of the important structures to be dealt with during cholecystectomy emphasize the fact that there is no "normal" anatomy so far as these structures are concerned. The cystic artery, the cystic duct, the common bile duct and the common hepatic duct must be visualized and accurately identified before any clamps are applied. This is essential, regardless of the method one chooses to employ for cholecystectomy.

The strictures we have seen in recent years tend to involve the common hepatic or the right or left hepatic ducts rather than the lower end of the common duct. If the anatomic relationships are distorted, choledochostomy at a point where the common duct can be identified will permit the introduction of a sound or dilator into the common hepatic duct. This may be most helpful in the dissection of the cystic artery and the junction of the cystic duct with the common hepatic duct. If the operator feels that he is still unable to carry out this dissection safely, he should be content with performing a cholecystostomy. The fact that common duct injury has occurred at the hands of eminent surgeons should be a warning

to all of us to avoid carelessness, haste and impatience in carrying out this common operative procedure. Indeed it is my feeling that the principal reason for injury to the common or hepatic ducts during the removal of a gallbladder is lack of proper respect for the operative procedure of cholecystectomy.

Treatment

All of these patients are such poor operative risks that several days of careful preparation are required before operation. Unless an external biliary fistula is present, they are usually jaundiced. In most cases, considerable weight loss, lowered blood volume, and lowered serum protein are present. Severe hepaticocellular damage may have occurred. The prothrombin is often low and at times fails to respond to the injection of vitamin K. This is a very serious prognostic sign. The hepatic damage may be so severe that only the establishment of an external biliary fistula is feasible at the first operative procedure. In recent years, we have seen a number of patients in whom massive liver enlargement and portal hypertension necessitated the establishment of a portacaval shunt before correction of the stricture could be attempted.

Successful repair of the stricture depends to a large extent upon whether or not a good proximal duct is available. If the injury is high, involving the common hepatic duct, little or none of this structure may remain. If the stricture is located at the bifurcation of the right and left hepatic ducts, it may be necessary to divide the partition between the two or even to implant the ducts separately. If possible, we try to carry out an end-to-end restoration of the common duct, using a T tube as a splint. The long arm of the T tube is never brought out through the area of the anastomosis. When the stricture is high, we are frequently forced to resort to hepaticojejunostomy. This may be carried out by means of a Roux-en-Y procedure, although we prefer to use a loop with an entero-enterostomy below. We have always felt that subsequent cholangitis is caused by obstruction at the site of anastomosis rather than by reflux of intestinal content into the biliary system. The type of prosthesis to be used will depend upon the type of restoration that is carried out. When a stricture involves the junction of the right and left hepatic ducts, a Y tube may be used with the limbs of the Y in the two hepatic ducts and the stem in the remaining common duct or jejunum. Since all prostheses become occluded if left long enough, a second operative procedure may be necessary to remove the tube in six to nine months.

Results

Our experience has shown that in these patients follow-up studies must be carried out for at least three years before the repair can be considered as probably successful. The best results, as might be expected, follow plastic repair of a partial stricture of the lower common duct. Unfortunately, this situation is rarely seen at the present time. The first attempt presents the best opportunity for a successful repair. Each failure means the loss of an additional amount of the common and hepatic ducts and reduces the chances of a successful outcome. One hundred and thirty-five patients in whom an end-to-end anastomosis was performed between 1950 and 1955 have had follow-up periods of more than three years; 57 per cent had a good or excellent result. One hundred and forty-five patients who were subjected to hepaticojejunostomy between 1940 and 1955 have had follow-up periods of more than three years; 42 per cent obtained a good or excellent result. Twenty-eight per cent of the patients in whom end-to-end anastomosis was carried out over a Y tube had a good result. This figure was increased to 65 per cent following a second-stage procedure for removal of the Y tube. Of the patients who underwent hepaticojejunostomy over a Y tube, the results were good or excellent in 28 per cent following a one-stage procedure, and in 62 per cent following the second stage. The present operative mortality for end-to-end anastomosis is 2 per

cent, and for hepaticojejunostomy, 4 per cent.

Conclusions

A careful review of this experience leads to a number of conclusions:

1. The patient with a common duct stricture has only one chance for survival, and that is a successful repair of the stricture.

2. If he is allowed to undergo repeated attacks of chills, fever and jaundice, even if these are mild and transient, severe liver damage and portal hypertension will eventually develop.

3. Failure following several attempts at repair does not mean that the situation is hopeless; success may follow the eighth or ninth attempt.

4. Last, but most important of all, it is obvious that the only satisfactory solution to the problem of common duct stricture is its prevention at the time of cholecystectomy.

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Historical Notes

Doctors: "Now that I am talking of doctors, what a strange set they are, and what a singular position they hold in society! Admitted to the fullest confidence of the world, yet by a strange perversion, while they are the depositories of secrets that hold together the whole fabric of society, their influence is neither fully recognized, nor their power acknowledged. The doctor is now, what the monk once was, with this additional advantage, that from the nature of his studies, and the research of his art, he reads more deeply the human heart, and penetrates into its inmost recesses. For him, life has little romance; the grosser agency of the body, reacting ever on the operations of the mind, destroys many a poetic day-dream and many a high-wrought illusion. To him alone does a man speak '*son dernier mot*' while to the lawyer, the leanings of self respect will make him always impart a favourable view of his case. To the physician, he will be candid, and even more than candid; yes, these are the men, who, watching the secret workings of human passions, can trace the progress of mankind in virtue and vice; while ministering to the body they are exploring the mind; and yet scarcely is the hour of danger past, scarcely the shadow of fear dissipated, when they fall back to their humble position in life, bearing with them little gratitude, and strange to say, no fear!"

New Orleans M. & S. J., 1: 52 (July to Sept.) 1844, quoted from Dublin University Magazine.

Prophylactic Use of Glucosamine-Potentiated Antibiotics in Emergency Abdominal and Gastrointestinal Surgery

• Study of a new oral tetracycline-nystatin preparation, used postoperatively on twenty-seven patients at Charity Hospital of Louisiana, New Orleans.

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THE risk of wound contamination and infection is ever present in abdominal surgery, but particularly so in emergency surgery when preoperative care is sometimes, of necessity, inadequate. Consequently, it may be helpful to think of emergency surgery in terms of contaminated rather than clean operative work. This implies the routine prophylactic use of antibiotics, not only preoperatively, but postoperatively as well. For such use, antibiotics must be screened for efficacy and safety in order to avoid burdening the patient with untoward effects in addition to the distress of disease. This study was conducted at the Charity Hospital to determine the efficacy and safety of a new oral tetracyclinenystatin preparation as postoperative prophylaxis following emergency surgery.

Materials and Methods

Each capsule of the preparation* contained 250 mg. of tetracycline; 250 mg. of glucosamine (2 amino-d-glucose), an aminosugar which is reported to potentiate the absorption of antibiotics;[1-3] and 250,000 u. of nystatin, noted for its fungistatic and fungicidal activity.[4,5] One capsule was administered four times daily for two to six days postoperatively to 27 adult patients. Indications for emergency surgery included ruptured appendix, carcinoma, perforated gastric and duodenal ulcer, intestinal obstruction, and strangulated hernia (Table 1). When conditions permitted the usual preoperative routines were employed. The majority of the patients received 500 mg. of tetracycline intravenously on admission, when possible, 100 mg. intramuscularly every eight hours before surgery, and after surgery oral medication as previously noted. Four patients received the tetracycline-nystatin preparation as preoperative preparation of the bowel in anticipation of surgery of the colon. In these cases 1½ ounces of castor oil were given first followed by 4 capsules every hour for four hours. A capsule was then given every four hours until surgery. The only antibiotic used postoperatively for all patients was the oral tetracycline-nystatin preparation.

TABLE 1
INDICATIONS FOR SURGERY

	Patients
Perforated Ulcer	7
Ruptured Appendix	6
Carcinoma of Gastrointestinal Tract	5
Intestinal Obstruction	4
Strangulated Hernia	2
Hypertrophic Gastritis	1
Hypersplenism	1
Cholecystitis	1
Total	27

Results

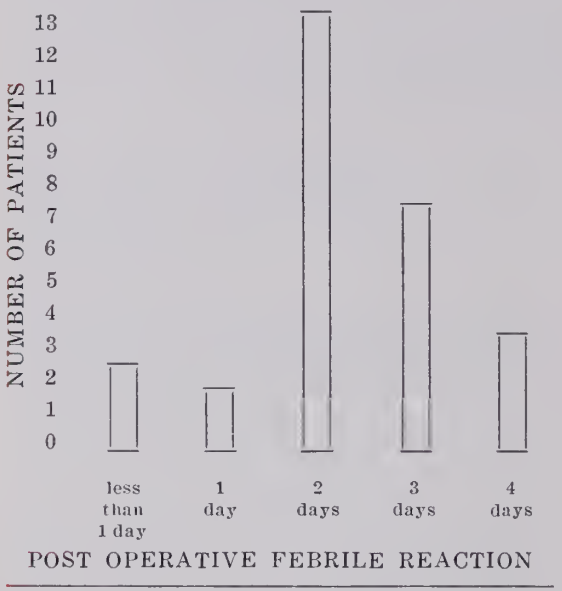
The combination of glucosamine-potentiated tetracycline with nystatin proved

From the Independent Surgery Service, Charity Hospital of Louisiana, New Orleans.

* Cosa-Tetrastatin, trademark of Pfizer Laboratories, Brooklyn 6, New York.

to be an effective and safe antimicrobial preparation for prophylactic use in major emergency surgery. All patients had prompt recoveries free of infection. None

TABLE 2
PATIENT RESPONSES



of the patients developed diarrhea, cheilosis, Monilia infection, or any other side effect as a result of the preparation. The average time of response from the febrile to the afebrile state was forty-eight hours (Table 2). In cases of extensive surgery, or when the patient remained febrile for longer than seventy-two hours, therapy was continued for forty-eight hours after the patient had become afebrile. Postoperative course was satisfactory and it is estimated that the hospital stay of these patients was shortened by two days to a week over other similar cases in which this form of antibiotic therapy was not used.

In the 4 cases in which the preparation was used preoperatively to prepare the bowel for surgery of the colon, patients had less fever after surgery than did patients who had been prepared by other methods preoperatively. This we attribute to the high blood levels attained with the glucosamine-potentiated preparation.

Discussion

The rationale for the combination of tetracycline with nystatin is well established and needs no explanation, nor does the desirability of increasing absorption of antibiotics from the gastrointestinal tract. Potentiation of absorption by glucosamine was not determined in this evaluation, but it has been reported adequately in the literature.[1-3, 6-8] The complete absence of gastrointestinal side effects probably results from increased absorption. Ordinarily, only about 20 per cent of an oral dose of antibiotic is absorbed, the remainder is inactivated, conjugated, or not absorbed and may have an adverse effect on the intestinal flora and mucosa. A reduction in the unabsorbed portion of the dose may therefore reduce the incidence and severity of side effects. Whatever the cause, the lack of side effects in these patients who had undergone abdominal and gastrointestinal surgery was very gratifying.

Summary

Twenty-seven patients received a combination of glucosamine-potentiated tetracycline and nystatin as prophylactic therapy following emergency abdominal and gastrointestinal surgery. None of the patients developed infections and there were no side effects. It was our impression that the prophylactic therapy materially shortened the length of time that patients had to be hospitalized following surgery.

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Hip Joint Prosthesis
Sovereign Remedy or Profligate Tool*

• The pros and cons of this procedure are gone into with a review of endoprostheses inserted in debilitated patients on the Tulane Unit Orthopedic Service at Charity Hospital since 1952.

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THE phenomenal enthusiasm with which replacement arthroplasty of the hip was received following Judet's report in 1950 was unprecedented. By 1952, a virtual deluge of endoprostheses of various materials and different design produced so much wild enthusiasm that it was described by one as "huckstering".[1] Each proponent spoke with particular energy in little-understood terms of "thrust", "stress", "strain" and "weight transmission" to substantiate the supposed supremacy of their particular device. The increase in types of prostheses available was paralleled by an ever-increasing widening of indications for their applications until practically all pathology of the hip has been advanced as indications for application of prosthesis. Proponents hailed the hip prosthesis as the panacea for hip joint disease—the sovereign remedy.[2,3]

Any procedure, promoted with such enthusiasm, accepted as hurriedly, often without question by its proponents, usually acquires a similar number of antagonists who are equally strong in their condemnation of the procedure. This is true of endoprostheses for the hip. Its opponents advanced objections based on opposing theories of "thrust", "stress", "strain", "weight transmission" and indications. Endoprostheses were labeled by the antagonists as a mechanically unsound, nonphysiologic instrument without excuse for existence or application, truly an instrument of the devil—a profligate tool.

It is sometimes difficult, if not impossible, to develop a clear impression of the true value of the hip endoprosthesis from the divergent claims and counterclaims which have appeared since 1952.[4-13] It does appear that at least a more mature evaluation is possible in 1958 than has been possible before. From the initial multiplicity of various designs and materials used in prostheses sufficient evidence of tissue reaction to various plastics and failure of the plastics under stress has accumulated to indicate that, at least for the present, prostheses of inert metals are more satisfactory, stronger, more reliable and have greater durability.[14-16] Through experience, as well as a study of complications arising from the insertion of prostheses, certain refinements of technique and principles of fixation of the prostheses have evolved. Intramedullary seating of the prosthesis assures greater stability and more permanent, trustworthy weight transmission.

Although the original prostheses were used primarily as a "replacement arthroplasty" in arthritics, a greater number are now being used in patients with fractures of the hip, either in fractures of the femoral neck which develop nonunion or aseptic necrosis or in fresh fractures of the hip in the aged or debilitated Although hip replacement prostheses continue to enjoy their more enthusiastic support in this field, here again, there

* Presented at the Seventy-eighth Annual Meeting of the Louisiana State Medical Society, in Shreveport, May 6, 1958.

appears to be considerable divergence of opinion as to indications for their use and the success of their application.[3-6,11,18,19]

In an attempt to clarify our own thinking regarding hip endoprostheses and the indications for their application as well as to formulate policy regarding care of the large number of debilitated individuals admitted with fractures of the hip, we have reviewed the endoprostheses inserted on the Tulane Unit Orthopedic Service at Charity Hospital since 1952. During this period of time a total of 59 patients have had femoral head prostheses inserted. In one patient a prosthesis was inserted in both hips. We have been able to follow 44 patients for evaluation of results. An evaluation of these 44 patients is the basis for this report.

Of these 44 patients followed, 39 (88.6 per cent) had hip prostheses inserted because of pathology arising from a fracture of the femoral neck. Prostheses were used in 16 (36.3 per cent) patients with fresh fractures in an elderly group of debilitated patients with an average age of 79.5 years. Twelve patients (27.2 per cent) with fresh recent femoral neck fractures had prostheses inserted because of complicating secondary diagnosis. Eight of these were psychotic, 2 had paralysis agitans, 1 had congenital cerebral palsy and was 73, and another had epilepsy with grand mal seizures. The inability to assure adequate cooperation during the postoperative state in this group was interpreted as an indication for the insertion of a prosthesis rather than routine treatment of the fracture.

Nine patients with nonunion following fracture of the femoral neck were treated by use of the hip prosthesis. Five patients had had primary open reduction and internal fixation with a Smith-Peterson nail with subsequent failure, the other 4 with nonunion had no previous treatment for their fractures. Two patients with pathological fractures, one with multiple myeloma, the other with metastatic carcinoma, had prosthetic replacement of the femoral head and neck. Three patients with radiation necrosis of the femoral head, secondary to treatment of carcinoma of the cervix, are included together with 2 patients with aseptic necrosis of the femoral head. One of these patients with aseptic necrosis had associated sickle cell disease. The other had a healed subcapital fracture fixed with multiple pins with delayed appearance of aseptic necrosis.

Surgical Technique

All prostheses used were of the Fred Thompson type except for two of the Naden-Reith type.

An anterior ilio-femoral approach was used in 31 of the patients (70.5 per cent) with reflexion of the attachment of the rectus femorus in the majority of these. A lateral or posterior lateral approach was used in 13 patients (29.5 per cent) and 3 had replacement of the prostheses through a Gibson or posterior approach.

Post-Operative Care

The routine postoperative care, obviously modified by particular or extenuating circumstances, consisted of postoperative suspension of the extremity in balanced traction, for twenty-one days with early mobilization in bed on an exercise skate board followed by instruction in ambulation using a walker or crutches.

Results of Therapy
Mortality

Four of the 44 patients died during the immediate postoperative stage (thirty days), an operative mortality of 9.1 per cent. One patient developed cardiac arrest and expired at the conclusion of surgery, 2 died of pulmonary emboli and 1 had a cerebral vascular accident on the fifth postoperative day. Death has occurred in 7 additional patients following discharge from the hospital. The cause of death ranged from peritonitis following biopsy of uterine tumor, cerebral vascular accidents, coronary heart disease, renal infarct (following hysterectomy) and occurred from one to twenty-seven months following discharge from the hospital. In none of these patients was the death considered related to or resultant from the surgery, the period of immobilization or

postoperative restriction of activities. These simply reflect the usual causes of death in a group of elderly, debilitated patients.

Complications

Postoperative complications occurred in 6 (15.6 per cent) of these patients. Infection was present in 2, neither of which was considered severe or produced serious sequalae. In 2 patients the stem of the prosthesis protruded through the posterior lateral aspect of the femoral shaft. In 1 patient the prosthesis remained loose or improperly seated. The patient complained of a sense of insecurity of the hip on attempted weight bearing or walking with slight discomfort. Calcification in the capsule or a myositis ossificans produced pain and limited motion in 1 patient.

End Results

Activities and Ambulation

Of the 44 patients whom we were able to follow from two to twenty-seven months, an average of 9.1 months, 13 patients (29.5 per cent) ambulate without assistance. An additional 6 patients (13.6 per cent) are ambulatory but require one cane for stability, relief of pain, or prevention of limp. Six other patients (13.6 per cent) use one or two crutches to walk, and 2 (4.5 per cent) ambulated with a walker. One patient who used a walker had radiation necrosis of both hips and ambulated well without significant disabling pain some twenty-seven months following surgery.

Six patients (13.6 per cent) were unable to walk at all. Two of these were paranoid schizophrenics who refused to get out of bed or ambulate in spite of accurately reconstructed hip joints with normal stability and a full range of motion. The 73 year old patient with cerebral palsy has remained in bed for approximately four months following surgery and one 89 year old white female who had not ambulated since the original fracture of the femoral neck has continued to complain and refused to walk in spite of the restoration of a stable hip. One patient with Parkinsonism was ambulatory at time of discharge; however, after admission to a nursing home she was allowed to remain in bed and deteriorated, subsequently developing numerous decubiti in which chronic infection developed with increased debility and subsequent death.

Classification of Results

Results were classified according to the patient's ability to ambulate, restoration of stability, and the degree of pain and discomfort present in the hip. Those patients able to assume their previous ambulatory activities without significant disabling pain were classfied as good or satisfactory, and those who ambulated with assistance and continued to have either disabling pain or limited motion were classified as fair. Those patients who either refused to walk, were unable to walk, or had disabling pain which prevented any but the most limited ambulation, were classified as poor results or failures.

Twenty-four of these 44 patients (54.5 per cent) were able to ambulate without assistance or disabling pain or with the use of a single cane to add stability to their gait or prevent limp and were classified as satisfactory or good. There were 6 patients (13.6 per cent) who were classified as fair, having some degree of disabling pain or limitation of motion of the hip. Fourteen patients (31.8 per cent) were considered as failures, being unable to ambulate following surgery. If the 2 schizophrenic patients without obvious instability or limitation of motion were eliminated from this group, the percentage of failures would be reduced to 12, or 27.2 per cent,

Discussion

Reflection on the claims and counter claims originally advanced by both proponents and opponents of replacement arthroplasty of the hip reveals that both views must be tempered in light of more mature consideration. It appears that the endoprosthesis for the hip is not the sovereign remedy or panacea for all pathological conditions of the hip, nor is it a mechani-

cally unsound nonphysiologic profligate tool or instrument of the devil which should never be used.

It would appear that several claims of superiority must be examined more closely before endorsement. This is especially true in fresh fractures of the femoral neck. The claim that prosthesis insertion is less traumatic and time consuming is not substantiated by comparison of comparable cases with closed reduction and internal fixation and those of prosthesis insertion. Operating time was practically identical for the two procedures. Mortality, operative and postoperative, in the group with prosthesis was 9.1 per cent. In a group of 161 patients reported by Vishoot [17] who had reduction and internal fixation of femoral neck fractures, there were 15 deaths, or a mortality rate of 9.3 per cent. The claim of superiority of the endoprosthesis in affording early ambulation is probably tenable; however, many of these patients required considerable training and assistance in walking and only 54.5 per cent were free of disabling pain and walked without assistance or with only minimal help of a cane. Over 13 per cent had disabling pain, limited motion, or instability which necessitated assistance of crutches to walk. Six of the 14 patients who were not able to walk were disabled by conditions other than hip joint disability, indicating that more careful consideration of indications for surgery might have eliminated or reduced these failures.

It must be remembered that age is relative and discarding a femoral head in a fracture which could be expected to heal simply because the patient has accumulated a certain number of chronological units might be questioned. Successful union in vertical or Pauwels type three fractures reported by Cleveland [18] might also raise doubts as to using the type of fracture line as an indication for discarding the head. More careful consideration for use of endoprostheses in fresh fractures of the femoral neck seems indicated if we are able to offer only slightly more than 50 per cent chance of satisfactory ambulation.

After considering the results in this series it does appear that certain fractures of the femoral neck are best "salvaged" by use of a femoral prosthesis. These are the fractures with comminution of the neck, fragmentation of the head or with such advanced osteoporosis that secure fixation of the head fragment with pins or nails was impossible. The use of endoprostheses in pathological fractures associated with malignancy or following radiation necrosis also seems rational. The use of endoprostheses in patients whose convalescence cannot be controlled postoperatively seems acceptable although 2 of 6 psychotic patients refused to use their endoprostheses after successful reconstruction.

After summarizing the unfavorable aspects of replacement arthroplasty of the hip it is only fair that we consider the patients with successful reconstructions. Our results agree with Thompson's conclusions that the prime indication for use of the endoprostheses is aseptic necrosis of the femoral head especially with nonunion of the neck fracture or with crumbling of the necrotic head. These patients have uniformly done well. The majority had much better motion and stability with less discomfort than could reasonably be expected with any other procedure applicable in the presence of the degree of pathology present. Those that were good were remarkably good.

In conclusion, we must agree that endoprostheses, although a valuable addition to our armamentarium, useful in salvaging irreparably damaged hip joints, cannot be expected to function as well as a hip in which reconstruction has resulted in a hip with viable head, normal circulation and covered by living cartilage.[19,20] If this cannot be expected we will continue using endoprostheses to salvage the hip joint function.

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Historical Notes

"*A Nut for the Ultra-Phlebotomists:* 'I have seen,' says Bordeu that truly spirituel and lively writer, 'a physician who put no bounds to his fondness for bleeding. If he had bled a patient thrice, he repeated it once more, for the good reason that there are four divisions of the world, four seasons in the year, and four cardinal points in the compass; after the fourth bleeding, a fifth was required, because there are five fingers to each hand; to the fifth he added the sixth, for that God created the world in six days; six!—oh! there must be seven since the week has seven days, and Greece had seven Sages; an eighth was necessary to make the number even; and a ninth, *quia * * * numero Deus impare gaudet.*"

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Management of Congenital Cataracts in Children*

• The authors review the various forms of an important congenital anomaly and its surgical treatment, in which good judgment and skill are essential factors.

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THE newborn infant keeps his eyes closed most of the time and sleeps a great deal. He has small pupils and does not have good fixation. Since it is not apparent that he can not see, an infant is usually several weeks or months old when his congenital cataracts are discovered. Partial cataracts may be overlooked for a long period of time because the patient will have enough vision to get along fairly well. Sometimes the diagnosis of cataracts is not made until the patient develops a strabismus or it is noted that one eye fails to grow in size as rapidly as the other one.

In about half of the cases of congenital cataracts there are other ocular anomalies. Some of these include microphthalmus, subluxation of the lens, nystagmus, strabismus, amblyopia, aniridia, choroidal and retinal diseases.

A moderately high percentage of these children will have mental retardation. It may not make its appearance until the child is 4 years old or older. The mental retardation is not necessarily due to the lack of vision for there are many blind patients who are mentally normal. Some children do improve after their vision is restored, but many do not.

Frequently, there are other associated congenital anomalies or metabolic disturbances of a constitutional variety found in these children. These include cardiac, skeletal, central nervous system, visceral, and various other anatomical anomalies.

Forms of Congenital Cataracts

With the fine beam of the slitlamp and the corneal microscope it is possible to see the surfaces and zones of the lens. The lens is transparent in its normal development and all congenital opacities are pure aberrations of growth and not arrests of development. The congenital cataracts can thus be classified according to the anatomical location of the opacities in the lens.[1]

Congenital Lens Opacities

Anterior Axial Embryonal Cataracts—Anterior axial embryonal cataract is the most frequent form of congenital cataract. It consists of multiple, fine, chalklike, white bodies in the proximity of the anterior embryonal suture and may be surrounded by a faint halo. It is stationary and does not cause any visual loss.

Sutural (Stellate) Cataracts—Sutural cataracts map out the Y-shaped sutures of either the anterior or posterior Y. The anterior sutures may be more involved in the anterior sutural cataract. In the posterior sutural cataract, the posterior suture is more frequently involved. Opacities may be present in both the anterior and posterior sutures and even unusual forms may be present.

Punctate Cataract—Punctate cataracts are scattered, small, gray or light blue opacities which do not involve the em-

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bryonic nucleus. Punctate cataract may occur in Mongolian idiocy at puberty.

Congenital Opacities at the Anterior Pole of the Lens[2]

Anterior Polar (Pyramidal) Cataract—Anterior polar cataract consists of a sharply circumscribed opacity of the anterior lens capsule. It varies greatly in size, and the opacities radiate into the lens. If the opacity is large, the patient may see better in dim light.

Capsular Flakes—Capsular flakes consist of white, oval, round, sharply circumscribed, dense opacities which appear as flat prominences on the capsular surface.

Circular or Subcapsular Cataracts—Circular or subcapsular cataracts vary in color from white to slightly brown. They may be round or radially placed.

Reduplication Cataract

This is an anterior lens capsule opacity which involves some of the lens fibers that are in direct contact with it. Healing has taken place with the later development of new, normal lens fibers between the capsule and damaged fibers.

Lens Changes Involving the Posterior Pole of the Lens

Spurious Posterior Capsular Cataract (Mittendorf's Dot) — The posterior lens dot represents the remnant of the attachment of the hyaloid artery. It appears as a fairly large dot on the posterior lens capsule.

Posterior Polar Cataract—The posterior polar cataract consists of a large, dense, circular opacity covering the posterior pole and representing a persistence of the fibrovascular sheath of the lens. A disturbance of the lens fiber directly beneath this lesion may follow and may result in a localized posterior opacity.

Posterior Lenticonus — Posterior lenticonus is a conical or globular protuberance on the posterior lenticular surface. This is complicated by posterior lens opacities.

Zonular (Lamellar) Cataract

Zonular cataract is the most frequent type of congenital cataract. It consists of a zone of lamellar opacities that surround the clear area of the lens. This zone of opacities is then surrounded by clear cortex. The cataract may surround the embryonic nucleus and also involve other parts of the lens.

Zonular cataracts are commonly seen following infantile tetany associated with convulsions in which there is an upset of the parathyroid-calcium metabolism. Other causes of zonular cataracts are local disturbances such as trauma, iritis, perforating ulcer, or perforating injuries.

Embryonal Nuclear Cataract

Embryonal nuclear cataract consists of a fine, gray-white punctate opacity lying in the embryonic nucleus. It appears as a gray globe in an otherwise clear lens.

Total Congenital Cataract

Total congenital cataract is an opacity of the entire lens. Occasionally, a small portion of the lens may remain clear. At times the cataract may become shrunken and degenerate to resemble a morgagnian cataract.

Membranous Cataract

Membranous cataract is a total congenital cataract which has had absorption of the lens parenchyma. The anterior and posterior capsules collapse to form a thin, gray-white or chalky-white membrane.

Floriform Cataract

Floriform cataract is an opacity which takes the form of annular elements grouped in a flowerlike arrangement. These are more commonly found in the axial portion of the lens, especially in the embryonic nucleus.

Axial Fusiform Cataract (Spindle Cataract)

Axial fusiform cataract consists of anterior and posterior polar cataracts united by threadlike opacities extending axially through the lens.

Spear Cataract

Spear cataract consists of spiky, branching opacities running through the axial portion of the lens without apparent relation to the anatomic structure.

Coralliform Cataract

Coralliform cataract consists of rounded and oblong opacities grouped toward the center of the lens so as to resemble a piece of coral. The embryonic nucleus and layers of cortex are all affected in the central area. The opacities extend from the anterior to the posterior capsule and show a play of color.

Spirochete-Like Opacities

Spirochete-like opacities consist of bandlike, irregular, sharply outlined gray streaks in the region of the posterior adult nucleus. They are spiral and resemble a corkscrew in appearance.

Ring (disc-shaped) Cataract

Ring cataract is one that results from the absence of embryonic nucleus. It is a depressed opaque central area surrounded by a clear lens of normal size and thickness. Sommerring's ring is a condition that resembles a ring cataract. It is the result of injury to the lens, with absorption of most of the lens, which leaves a central membrane and some enclosed lens.

Congenital Cataract after Maternal Rubella (German Measles)

Congenital cataract after maternal rubella in the first trimester of pregnancy may be a dense, pearly-white central opacity with a clear periphery or a dense complete cataract.

Differential Diagnosis

Congenital Cataracts

The diagnosis of congenital cataracts is made by the anatomical location of the opacities and by their configuration. Frequently it is difficult to be sure there is not any associated condition in total and complete congenital cataracts. The medical history may be of value in some of these cases.

Forms of Cataracts Acquired in Childhood

Tetany Cataract—Tetany cataract is a zonular cataract associated with infantile tetany and convulsions during the first year of life. The opacity surrounds the fetal nucleus.

Diabetic Cataract—The diabetic cataract commences as small, discrete, cloudy opacities that are just beneath the anterior and posterior lens capsule. They are snowflake-like and gradually appear throughout the cortex. Later these cataracts absorb water. The cataract may mature rapidly.

Mongolian Idiocy Cataract—The Mongolian idiocy cataract develops during puberty and may be disciform, annular, flaky, or punctate.

Atopic Dermatitis Cataract — Atopic dermatitis cataract consists of a radiating type of opacity in the anterior cortex or a dense, white, irregular plaque in the posterior cortex. The capsule may be wrinkled or irregular and as the cataract advances, it produces a homogeneous mature cataract.

Coronary Cataract—Coronary cataract is a wreath of club-shaped opacities in the periphery of the cortex near the equator of the lens. It appears in early childhood or about puberty and becomes stationary after a certain period.

Traumatic Cataract—Traumatic cataract may be produced by severe contusion of the globe, or by a perforating wound of the anterior chamber. There may be perforation of the anterior capsule only, or a through and through perforation by a pointed object or an intraocular foreign body. Cataracts absorb water and mature rapidly.

Cataract Associated With Uveitis—Cataract associated with uveitis occurs when the treatment for the uveitis is ineffective. The lens cortex and nuclei may mature to complete cataract.

Cataract in Galactosemia—Galactosemia is due to failure to metabolize galactose normally. These individuals develop enlargement of the liver, loss of weight, cataract formation, and the disease may lead to death. The opacity appears earliest in the cortical fibers near the equator. Later the epithelium shows changes. The nucleus remains clear until very late in the course of the disease. The usual change is a peculiar ring which appears to surround the nucleus. The ring is more refractible

than opaque and can be seen with the ophthalmoscope.

Persistent Hyperplastic Primary Vitreous

Persistent hyperplastic primary vitreous is a failure of regression of primary vitreous and the blood vessels. This results in tissue on the posterior surface of the lens. It is pinkish-white and varies in size from just a plaque to an area which completely covers the posterior surface of the lens. The lens is smaller than normal and is clear at first. Later it becomes cataractous with the lesion beginning at the posterior pole. It increases until the entire lens is opaque. Glaucoma is a common complication.

Persistence of Pupillary Membrane

Occasionally there is a pupillary membrane consisting of remnants of the anterior part of the tunica vasculosa lentis. This may be seen as thin threads in the pupillary area. Usually these remnants do not contain blood vessels, but on occasion there may be persistence of some fine vessels carrying blood in the pupillary area.

Retinal Dysplasia

Retinal dysplasia occurs in the newborn but is not related to prematurity. It is bilateral and the eyes are microphthalmic. Anomalies of the brain, heart, vascular system or skeleton are usually present. The retina is detached in part or totally, and lies in folds against, and enmeshed in, a vascularized connective tissue back of the lens. The total or partial detachment of the retina represents a union of the retina to a part or all of the primary vitreous with a failure of the secondary vitreous to form over this area of coaptation. The lens is clear in the beginning but usually becomes cataractous.

Retrolental Fibroplasia

Retrolental fibroplasia is a disease of the premature infant. In the advanced stages the retina becomes partially or completely detached and pulled against the posterior surface of the lens to produce a white pupil. Later the lens may become cataractous.

Retinoblastoma

Retinoblastoma is a malignant tumor of infancy and early childhood. In its late stages this tumor of the retina may be pressing on the posterior surface of the lens producing a white pupil.

Ectopic Lentis

Ectopic lentis is a displacement of the lens. The zonule shows an asymmetrical defect and the displacement is in the direction away from the poorly developed fibers.

Indications for Surgery

Surgery is indicated when the visual acuity is reduced to the point of interfering with the normal use and development of the eyes. From the preceding discussion it is noted that there are many types of congenital cataracts, ranging from bilateral complete cataracts to insignificant congenital opacities which do not require treatment. In general, the type of cataract has little to do with the indication for surgery, though it may influence the choice of operation.[3]

Surgical Considerations

1. Unless the vision gets worse, it is advisable to leave the patient alone if his visual acuity is 20/50 or better. Surgery is not indicated when there is a mild involvement in one eye and a severe involvement in the other because the patient will be able to lead a fairly normal life so far as visual handicaps are concerned. If the involvement of the lens in the poorer eye is very severe, the eye may become amblyopic, but this is not always true. However, if surgery is performed upon one eye, that eye will become amblyopic. Theoretically, such postoperative amblyopia could be prevented by prescribing a cataract lens and occluding the good eye. But from a practical standpoint this method does not work out very satisfactorily. It is difficult to do an accurate refraction in these children, and it is hard to secure satisfactory cooperation on the part of the parents and the child. Sooner or later, occlusion is given up without having accomplished its purpose.

2. In borderline cases, with moderate

involvement in both eyes, the child should be observed to see how he gets along. It is important not to hurry into operation in these cases. Amblyopia will not develop and a more accurate refraction can be done when the child is 5, 6 or 7 years of age. Frequently, the decision will depend somewhat on how the child gets along in school.

3. Some cases of bilateral dense central opacities have adequate vision with dilated pupils and suitable glasses, but have inadequate vision when the pupils are small. Satisfactory vision can be maintained by keeping the pupils dilated, and the patient may be handled in this manner for a while. However, it is not usually feasible over a long period of years and surgery may be necessary. If the visual acuity is 20/50 with the small pupil, then surgery is not indicated.

4. In patients with bilateral complete cataracts either present at birth or developed shortly afterwards, surgery is indicated.

5. In patients with severe involvement of both eyes, even though there is not complete opacification of the lens, surgery should be done because the size and density of the cataracts preclude useful vision.

Age of Operation

There is not any hard and fast rule concerning the optimum age at which to operate and there has been a good deal of difference of opinion on this subject. In the case of bilateral complete cataract in infancy there are those who advocate early operation to permit development of the macula. On the other hand, the visual results are poorer when the operation is done before the age of 2 years than when done later because the incidence of complications is greater.[4]

If the cataracts interfere with fixation, the first eye should be operated upon at 6 months of age in the hope that the resultant fixation will prevent nystagmus. The second eye is operated upon between 2 and 3 years of age. If the cataract is borderline, it is better to defer the operation until the child is 5, 6 or 7 years old.[5]

Surgical Procedures[6]

Optical Iridectomy

Optical iridectomy may be used in those cataracts in which dilating the pupil improves the vision. This group would include central opacities, zonular cataracts, and anterior polar cataracts.

The iridectomy works best in the inner lower quadrant. A keratome incision is made a little inside the limbus in the cornea. A small fold of iris is grasped at the pupillary margin, drawn out, and cut at the tip with the scissors. The periphery of the iris is preserved.

The results of optical iridectomy are usually disappointing especially in cases accompanied by amblyopia and nystagmus.

Discission

Discission is the most popular and most widely used operation for congenital cataracts. The pupil must be widely dilated. The knife-needle is introduced into the anterior chamber after perforating the conjunctiva and the cornea to the outside of the limbus. The knife then makes a vertical incision and then a horizontal incision in the anterior capsule of the lens.

The end results are generally good. However, the procedure may have to be repeated a number of times. Complications include: cessation of absorption of the lens material, requiring repeated operations; occlusion of the pupil due to poor dilatation postoperatively; prolonged low-grade iridocyclitis; dense membrane formation; glaucoma; and retinal detachment.

Ziegler's V-shaped Through-and-Through Discission of the Lens

The through-and-through discission is similar to the other discission excepting the knife-needle cuts through both the anterior lens capsule and the posterior lens capsule into the vitreous. Complications include: delayed absorption of lens material; disturbance of the vitreous; glaucoma; late development of chronic iridocyclitis; and retinal detachment.

Moncreiff Operation

An incision is made into the anterior

capsule with the knife-needle as is done in the ordinary discission. Multiple incisions are made in all directions down to the nucleus until the anterior cortex and capsules are reduced to shreds. The nucleus is also cut into fragments. A little aqueous is allowed to escape as the knife is withdrawn. Then an attempt is made to wash all the cortical material into the anterior chamber with the anterior chamber irrigator. The complications include glaucoma.

Linear Extraction

The linear extraction operation is becoming very popular because absorption is rapid, one operation usually suffices, and the postoperative period is shorter. An incision is made into the anterior chamber through the cornea just inside the limbus. A large capsulotomy is done with the capsule forceps. The lens substance is expressed and anterior chamber is washed out. Air is injected into the anterior chamber to prevent synechia formation. Complications include occlusion of the pupil, posterior synechia, glaucoma, vitreous loss, and retinal detachment.

Combined Discission and Linear Extraction

This technique requires two surgical procedures. An extensive discission of the anterior capsule is done and the eye is observed for several days postoperatively until the lens material becomes disintegrated. Then a linear extraction operation is done to remove the lens material.

Iridectomy and Linear Extraction

A full iridectomy is indicated when it is not possible to dilate the pupil well. The incision is made at the limbus with the keratome. The iris is pulled out and an iridectomy is made with the scissors. The capsulotomy is done and the linear extraction is performed.

Wheeler Discussion

This operation is performed for membrane formation, shrunken cataract, and after cataract. The knife-needle is pushed through the cornea inside the limbus into the anterior chamber and advanced until the tip is just under the pupillary margin of the opposite side. It is then thrust through the membrane and the blade passes into the vitreous as it returns to the same side of the pupil where it was introduced. Complications include vitreous loss, glaucoma, and retinal detachment.

Capsulotomy for Occlusion of the Pupil

This operation is used in those cases in which there is a thick membrane of the capsule and lens remains. The keratome incision is made inside the limbus. The scissors are introduced into the anterior chamber, and then one blade punctures the membrane. The hole in the membrane is lengthened by cutting the membrane with the scissors. Air is injected into the anterior chamber, and the corneal wound is closed with a preplaced suture. Complications include vitreous loss, glaucoma, and retinal detachment.

Surgical and Postoperative Complications

Vitreous Loss

Loss of vitreous is a problem in all the various types of linear extraction and the capsulotomy operations. Before the operation is begun, firm pressure should be applied to the globe through a handful of gauze for five minutes to soften the eye. This procedure lessens the chance of losing vitreous. The capsule forceps should not be used but one time. If a discission has been performed, the capsule forceps should not be used. Too vigorous methods of expressing lens material or too vigorous irrigation may cause the loss of vitreous.

Inadequate Pupillary Opening

A pupillary membrane or a drawn-up pupil may cause an inadequate pupillary opening. This problem frequently arises when the pupil does not dilate well preoperatively and postoperatively. If the pupil does not dilate well preoperatively, it will be even less dilated postoperatively. This situation may be avoided by doing a full iridectomy in those cases which do not dilate well preoperatively.

Sometimes this complication occurs in

cases which did dilate well preoperatively. This complication is then due to inadequate use of mydriatics postoperatively or stopping the mydriatic too soon.

Frequently the postoperative reaction may be violent and a dense inflammatory membrane may result. This membrane will contract and can cause a drawn-up pupil. The drawn-up pupil can also be caused by vitreous loss. In cases with violent postoperative reaction the vigorous use of mydriatics and hydrocortisone as indicated may prevent the complication.

Glaucoma

Glaucoma may be due to various causes after congenital cataract surgery. If it follows a discission, it may be due to inadequate opening of the capsule with swelling of the lens. The iris would be pushed against the angle and cause an acute glaucoma. This may be avoided by making an adequate opening in the lens capsule. If the acute glaucoma occurs, an immediate linear extraction should be done.

Glaucoma may be caused by blockage of the angles with lens cortex. In cases where this occurs, an immediate linear extraction should be done.

Glaucoma may also be caused by peripheral anterior synechia. This is very infrequent with discissions and seen more often following linear extractions. It may be prevented by avoiding severe postoperative reactions and shortening their course with mydriatics and hydrocortone.

The most serious type of glaucoma is that due to pupillary block where vitreous may fill the discission opening and block the pupil.[3] This type of glaucoma may not be recognized because of the difficulty in using the tonometer or the slit-lamp on these very young children. An unevenness in depth of the anterior chamber may indicate a pupillary block. Occasionally an iris bombé may be present. When there is contact between the peripheral iris and cornea, a block is indicated. If the block is not relieved immediately, peripheral synechia will form and a permanent glaucoma state results. A peripheral iridotomy should be done to relieve the pupillary block and prevent synechia formation. The prognosis is poor and the eye is usually lost if synechia are permitted to form.

Retinal Detachment

This complication occurs long after the cataract operation. It may occur from prolonged inflammation, membrane formation, and traction on the retina.

The prognosis for reattachment is poor because the pupil does not dilate well.

Prognosis of Congenital Cataracts

Most congenital cataracts are stationary, and if they are small, will cause little or no disturbance of vision. There is a definite hereditary tendency in congenital cataracts, especially with congenital total cataract, embryonal nuclear cataract, lamellar cataract, coralliform cataract, spear cataract, floriform cataract, and disc-shaped cataract.[7]

The surgical prognosis in congenital cataracts must be guarded because it is not as good as it is in the senile type of cataract. At least half of these patients have other congenital ocular anomalies which may complicate the surgery. Only about 50 per cent of the patients have postoperative visual acuity of 20/100 or better. Nine per cent have 20/200 visual acuity and 17 per cent are blind for all practical purposes. Only 8.4 per cent have reading vision and all patients with nystagmus have a visual acuity of less than 20/50.[8]

A visual acuity of one-fourth of normal usually seems rather poor. For postoperative congenital cataract surgery it is considered a good result, and the parents of these children must be told the facts so they can understand them and will not be disappointed. If a child with congenital cataracts has 20/50 visual acuity or better, it is much better judgment to leave the cataract alone.

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Discussion

Dr. Louis A. Breffeilh (Shreveport): Dr. George Ellis has presented a concise paper on the management of cataracts in children. He has made an excellent coverage of this subject and there is little to add to the discussion.

Clinically, we find that there are various stages of progression depending upon the type and severity. The patient may have a small central nuclear cataract which is only diagnosed on routine examination. Often these are not found until late in life and the interference with vision is minimal. Other types may be advanced at birth and early cataract surgery is essential for the stimulation of vision. Often I find that the cataract is not diagnosed until the child is in school. This type becomes progressively worse and visual difficulties result in surgery. The parents and other children should be examined as I often find that they also have cataracts in various stages of development. Congenital cataracts are more frequent than the literature would have one believe. I believe this is due to the failure to report these cases. In reviewing the last 200 cataract operations performed in my practice, 5 patients had congenital cataracts and underwent surgery while approximately 20 were diagnosed but did not need surgery.

I wish to thank Dr. Ellis for the opportunity to discuss his very excellent paper. He has covered his subject thoroughly and I do hope this will stimulate interest in the early diagnosis and treatment of congenital cataracts.

Historical Notes

"Northern Schools, and Southern Students"

"Our able contemporary, the *Medical Examiner*, of Philadelphia, edited by Professor Huston, extends to us the right hand of fellowship, and welcomes us into the medical *Corps Editorial*, but at the very threshold takes us severely to task on account of one of the positions assumed in our Introductory Address, viz: *That Southern diseases can only be learned in the South.* The learned Professor pronounces this a 'degrading doctrine', and says, 'he is aware that it is but the echo of an assertion oft repeated by a prominent teacher in the southwest.'

We can assure Professor H. that the opinion advanced by us is founded on careful observation, is conscientiously entertained, and we believe it is embraced by nine-tenths of the experienced southern physicians.

Now, as we are totally disconnected with all medical schools, we may be permitted to declare that we are in favour of a general improvement and elevation of the profession throughout the whole extent of the country. Hence, it was that we projected this Journal, as the best means of stimulating the talent and energy of the physicians in this region, and of preserving from destruction the results of their experience."

New Orleans M. & S. J., 1: 120 (July to September) 1844.

The General Practitioner and Psychiatry

• A new approach to treatment for the emotionally disturbed patient not in need of psychiatric care is outlined by the author.

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THE astute physician, though mindful of the effect of emotions upon his patient's health and welfare, may become intensely frustrated in his efforts to be helpful. Consequently, faced with a growing number of the emotionally ill, he may be impelled to find a better way of dealing with them.

Study Group

Foreseeing for the general practitioner a more important role in the mental health program, the author and a small number of interested New Orleans physicians formed a study group in 1954. Originally planned on a two year basis, it has continued, and is now in its fourth year. The practitioners and specialists who formed the nucleus, are now carrying out more effective therapy with their patients as a result of this learning experience.[1]

Recently, the author visited the Tavistock Clinic in England, where a similar project for general practitioners and specialists has been successfully conducted for the past seven years under the direction of Dr. Balint.[2] Six other countries he visited had none. Such programs are not the only answer to the mental health problem and personnel to deal with it, but it is surely one solution that is progressively finding more favor.

Two other proposals can be mentioned in passing: the first advises reducing the demand for specialized psychiatric services by a better distribution of the total load;[3] the second suggests creating a new subdiscipline in the medical profession itself.[4] However, the efforts of our own group and those with similar aims can more profitably be concentrated upon training physicians in the art of psychotherapy—that is to say, in the art of medicine itself. An important corollary of improved psychotherapy could be better public relations with favorable political feelings to follow.

Many physicians who share with the psychiatrist an orientation and motivation suited to psychotherapy, implemented by medical training and experience, prove apt pupils. Through special training and supervision in psychological methods, he may improve his skills and gain confidence in their use in his practice. However, a traditional approach of lecture, demonstration, and discussion in presenting theories and facts is not sufficient. Rather it has seemed more effective to have the individual physician use the living material of his own cases as the text to be elucidated through the observations and discussions by the participants in the study group.

As part of a dynamic experience, the doctor is encouraged to report faithfully his interviews with his patient—not as an impartial bystander, but rather as the responsible therapist whose own feelings necessarily come into play and materially influence for good or ill the course of treatment. This is not easy. It takes real courage for a physician, especially, to submit his patient-physician relationship to study by the group, and digest the results. He must carry the responsibility for treatment of his patient and at

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the same time undergo a possible modification of his own attitudes in the relationship. Not every physician can share in such a project, but those who do so gain greatly. They feel that in such a program they are getting something not obtained elsewhere, and are eager to push on to new heights. For the psychiatrist, too, it is a learning experience, because it is impossible to anticipate all the possible turns in events associated with many cases. The group as a whole participates in a total learning experience, for it takes place over a broad area in human relationships—chiefly in the one between the doctor and his patient, and focusing upon the patient as the object of therapy, but touching also upon the relation of physician to the psychiatrist; the physician to the group; and the psychiatrist to the group and to the individual members of the group.

Attitudes Toward Illness

Another important factor is the patient's illness, which may be regarded from several different standpoints: as a symptom-picture, of course, but also as an entity, sometimes a creation of the patient's, toward which he has built up certain attitudes, including a possible fondness, or even need for it. On the other hand, his family and friends may hold attitudes toward this illness as well, that the physician would do well to ascertain. Finally, the physician may have attitudes of his own toward that type of illness; toward that illness in that particular patient; toward the patient as a person, quite apart from the illness. It is not always possible to take refuge behind the facade of medical authority in dealing with patients, especially the neurotic patient. Moreover, some patients are shrewd, intuitive, and quick to find the chink in the physician's armor. Without realizing it, the physician can be outmaneuvered into doing what the patient wants him to do, or does not want him to do about his illness, rather than what is best as therapy.

A striking example of this is described at some length by Main, a British psychiatrist, in outlining "gross forms of a behavior syndrome", but adds that "minor forms can be noted in most medical practice." The situation he refers to was one where the staff psychiatrists of a hospital, the nurses, and attendants were pressed into catering to insatiable needs that are characteristic of a certain type of patient as a feature of the illness itself. Such patients are unbelievably clever in manipulating their relationships to those who are sincerely trying to be helpful. As a result these kindly ministrations are in vain, and such patients sow discord and create confusion at times wherever they go.[6] One safeguard, Main adds, in handling them, is absolute sincerity and mutual frankness between those who must care for them. When the same policy prevails in a study group, the individual physician has access to insights more readily available to the doctors who are detached from the situation that concerns himself and his patient. They more readily detect that a particular patient is using the physician's own need to care for and cure patients, to further his illness and dominate the doctor and the therapy.

New Insight Into Therapeutic Situations

A physician may find out surprising things about himself in relation to his patients, but as he begins to understand himself better, and gradually frees himself from stereotyped responses to patients, he will have more spontaneity in treating them. Psychotherapy will take on new dimensions of a skill rather than a haphazard procedure of guesswork, authoritative attitudes, exhortation, advice, reassurance, and at the close of the interview, the boon of a prescription. While many of his own cases are suited to his new skills, it is emphasized that other cases demand the more extensive knowledge and experience of the specialist. After all, the aim of the study group is not to make psychiatrists of these physicians. The philosophy is one of considering what will be for the best interests of the in-

dividual patient in question.

The prerogative of the physician to assume this responsibility towards his patient is a precious thing, and when he achieves through his experiences in the study group new insights into the therapeutic situation in terms of a meaningful relationship between himself and the patient, he will feel more secure in decisions that are reached from this point on. He will be less liable to being lured by the patient, should he be a surgeon, for example, into performing an unnecessary operation to satisfy her craving for polysurgery. He may avoid, too, polypharmacy and refrain from playing into the insatiable desire of some patients for medicines. However, we must not lay this drug problem entirely at the patient's door. Main made a study of the use of sedatives in hospitals, and concluded that they were administered quite often to protect the nurses from further encroachments by demanding and intolerable patients. Humorously, he remarked that "it was always the patient and never the nurse who took the sedative", although it was the latter whose feelings were overwrought.[5] Less often will the physician in the study group fear, as he perhaps originally did, to offend patients by not acceding to their wishes, or refrain from a comment that would have been well accepted by the patient, but held against him as a sin of omission, as he might find out long after.

Such incidents are well discussed as they come up in the practice of physicians in the group. The psychiatrist stays out of the picture as far as possible, emphasizing the aim of allowing the physician to see what is going on at a particular point, without giving specific advice. However, observations on the part of the group, including the psychiatrist, together with the individual doctor's own improved understanding, combine to provide a rich educational opportunity for all.

Referrals

Thus the physician is allowed to find his own way even at the expense of some stumbling. Yet should he wish consultation, or to make a referral, the chief responsibility remains with him. In the process of studying what he does with relation to the patient, he may find in the course of group discussion, for instance, that his wish to refer the patient stems from a desire to reject him for some personal reason unknown to him until then. Naturally, there may be cases in which the doctor is honestly out of his depth and a consultation or referral is mandatory. Some physicians, too, might decide to use hypnosis in certain cases, and would, of course, have the opportunity to do so. However, his reasons for its use would be subject to discussion in the group as would any other procedure he might elect to employ. In learning to consider all the reasons for his own actions in a given situation, and to reflect upon his attitudes and feelings towards patients in the light of what is revealed in group discussions, the physician learns to understand his patients more fully and to listen and observe in a new way to what the patient does or does not say or do. Nor will he stop there; rather he will learn to examine closely his own feelings and reactions and responses in terms of behavior to what the patient says and does, or does not say or do. He may willingly report this to the group, or it may extrude through the group discussion. The point is he sees more often the doctor's place in the physician-patient relationship, and consequently reduces his own blind spots and vulnerable areas. This is the crux of acquiring psychotherapeutic skill, designed partly to modify patterns of behavior established in all human beings early in life and repeated like reflexes in later situations. Such patterns may be centered about becoming ill, being ill, being dependent, accepting medical help or giving it, becoming anxious and demanding, displaying childish patterns of behavior in consequence of regression. In perfecting psychological skill, therefore, the doctor must become increasingly aware of his own reactions to his patients, and not remain bound to

automatic attitudes and behavior, which may have originated from early life and from unresolved dependency problems in himself. It is important to become aware of such, because some of these frankly can be quite "infantile", or as Balint would say, "primitive" in nature.

As time passes, it becomes increasingly clear in a study group, that the doctor's own personality is the sine qua non of psychotherapy. In vain are all the elaborate devices and resources of scientific medicine, if some of the doctor's own personal attitudes and feelings and actions are obstructive and adverse in handling his patients, their families, or even directed negatively toward psychotherapy. For example, in referral to a psychiatrist, how often do things get off to a poor start when the referring physician inadvertently holds reservations towards psychiatry.[6] Occasionally, even the patient will detect personal feelings behind a seemingly neutral remark or withheld comment. A physician should always be mindful that his patient studies him while he in turn studies the patient. Feelings on both sides are detected in spite of a deliberate effort to conceal them. Some physicians find it difficult to share a patient through referral to another doctor. It should be realized that referral is a delicate matter from the standpoint of all concerned. It introduces a new factor into the physician-patient relationship already established. To some patients it is interpreted as a rejection, and the physician should reassure the patient and prepare him to accept the new therapist. It is particularly difficult where referral to a psychiatrist is in question, and in some cases the patient does better to remain with his family physician.[7] Through consultation with the psychiatrist, the physician can carry on.

Where the patient is referred to a psychiatrist, especially when hospitalization is in question, a healthy trend is shown by keeping the personal physician in the picture during this period. He helps prepare the patient to accept hospitalization, sees him in the hospital, while temporarily under the direct care of the psychiatrist, and again when out of the hospital and upon his return home. Such procedure is an acknowledgement of the importance of the primary relationship between the personal physician and the patient. Least is expected of the patient in establishing and maintaining a good bond, but certain ones do understand and value it, feeling an obligation to hold onto the one traditionally strongest, while forming a temporary good relationship with the specialist. The two physicians, for their part, take counsel together for the patient's benefit, and use the joint bond of physician to physician and physician to patient as a bridge to total therapy.

Effective Physician-Patient Relationship

In a sense, the doctor, himself, can be considered the patient's best medicine. In some cases the doctor prescribes the intervals when he must be "taken"—that is, through appointment; but the patient, on the other hand, has the privilege of calling on him when need arises, either in person or by telephone, otherwise he may become greedy and angry. The doctor's choice of words, his tone of voice, his communication through non-verbal channels are all meaningful to the patient and may influence him more than all the medicines prescribed in some instances. Some persons have a great need to hold on to illness—it may make an unfriendly environment tolerable and ensure them some measure of attention and care. Should such a patient have a physician driven by a compelling need to cure, whatever the consequences to the patient, a contest might ensue in which the patient would be subjected to increasingly drastic treatment, while consistently failing to improve. Meanwhile, the doctor is increasingly exasperated and frustrated by a patient who will not get well, no matter what is done. A sadistic drive under the guise of treatment gains momentum, and in some cases may bring the patient near the doors of death.[5] On the other hand, a physician with more psychotherapeutic enlightenment and a different approach, would respect the patient's right to be ill,

and even to die in peace if need be, if that were the only answer. However, he might help him to find, if feasible, another way out of his problem.

Psychotherapy is not merely a combination of skills, but truly an art, practiced creatively. Harmonizing and balancing discordant elements, the therapist helps his patient achieve his own best state of equilibrium—clearing the way for nature's own healing processes. It is an art not only in what is actively attempted, but also in what is left undisturbed as parts of his past, which if disinterred would only do harm in the interests of overcurious research.

The physician who practices the art of medicine well is free to deal with his patient in terms of the present, unhampered as far as possible by automatic emotions or behavior of his own. It is evident, then, that a primary aim of a study group designed to impart psychotherapeutic skills to doctors who seek them, will be to create a situation wherein they can gain a degree of personal knowledge sufficient to enable them to modify habitual attitudes where necessary, and can treat their patients in terms of a fully effective physician-patient relationship. All of us who participate in such groups are aware that typical crises will occur from time to time, some of which may be successfully handled, but inevitably there will be a few doctors who do not survive in the group, particularly when some of their private feelings and professional practices become common property, and are subject to being stripped from their personality, after serving so long as an insulation for self-esteem. However, for those who have the courage to participate and persevere, the reward is a stretching of individual capacity and therapeutic reach. Further, by-products from such experiences may extend beyond his patient-physician and professional relationships over to his social, and even his domestic life. Finally, the experience may ease up many emotions and tensions within him, which in themselves may not only be exhausting and depleting, but decidedly harmful.[8]

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Discussion

Dr. Charles Watkins (New Orleans): It is indeed an honor to have the opportunity to discuss this very excellent paper. I have been privileged to see Dr. Watters and his group in action. The results obtained by their combined efforts far surpass the modest claims put forth in this presentation.

I will not attempt to discuss the details of the paper. The material has been well summarized and any addition, to be of value, would require a broad expansion of the subject. Time is not available for that.

I would like to confine my remarks to the problem which this group is attempting to handle, the emotionally disturbed patient not in need of psychiatric care. This group of patients is assuming greater and greater importance as the major killers and cripplers are overcome. More patients are concerned with their emotions because they have to be less concerned about pneumonia, malaria, and other major somatic diseases. This need must be satisfied, if not by the medical profession then by others.

As a psychiatrist I am particularly happy to see groups develop such as have been described. The general practitioner, the pediatrician, and the internist are the persons upon whom the first responsibility for the detection and management of emotional disorders rests. Too much they have been neglected, and isolated from mental health planning. This tendency will be corrected by groups such as this.

I recently had the opportunity to hear the report of a committee that had made a two year study of the incidence of emotional illness in children in the state. It is interesting, and highly significant that not a single general practitioner or pediatrician was contacted for information. I may say parenthetically that my comments to the committee pointed out this glaring deficiency.

It is also significant that at a state level *outside* the Department of Hospitals there is a move afoot to recommend referral of all patients discharged from state mental hospitals to the parish Department of Public Welfare. The rationale given for this is that the social worker in such office is the only person available in the parish who has any insight into emotional illness. This again is obviously incorrect.

I mention these two instances only to point out that the medical profession must take active steps to counteract such developments. The type of program such as Dr. Watters has described is capable of doing so.

The Celebrated Surgeon Dupuytren

Guillaume Dupuytren, the most renowned surgeon of his age, the most villified during his life, and the most regretted after his death, the most favoured by fortune, and the constant object of envy, though unhappy, was born of parents in a very low rank of life at Pierre Buffiere, October 6, 1777. As a child he was so good looking, so intelligent, and always apparently so neglected by his family, that he was twice taken from them; first, at the age of four, by a rich lady, a traveller, who took a violent fancy for his pretty patois and his glossy locks; and afterwards, in his twelfth year, by a cavalry officer, whose brother was superior of the college of Lamarche in Paris. In that institution he received the first rudiments of his education, both general and professional. But though he pursued his medical studies with zeal and success, he cut but a sorry figure in his humanities, and he acquired the character of a refractory subject, a rake and a gambler, a character which was perseveringly attributed to him in after life, when he in all probability had ceased to deserve it.

Arriving at the Hotel Dieu (Paris) at six in the morning, he seldom left it before eleven. His stern and reserved demeanour imposed the strictest order and silence on all around him.

One day, a patient from whose neck he was cutting out a wen, fell dead under the knife: a vein had been opened, and the air drawn into it by the act of inspiration * * * * Well, it will be supposed perhaps that Dupuytren was shocked and agitated by this catastrophe: * * * But seeing in this fatal event a surgical fact until then unknown, he immediately harangued his pupils on the causes of the startling accident they had just witnessed.

New Orleans M. & S. J., 1: 84 (July to September) 1844, quoted from Foreign quarterly.

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Editorial

Value and Use of Vitamin Preparations

Vitamin preparations have a wide acceptance and evoke increasing public interest, but they are valuable only when used properly. A recent statement by the Council on Foods and Nutrition of the American Medical Association gives an important summary of current thought on the topic and it will furnish a guide to the physician in regard to the indications for their administration. Certain fundamentals are given in this article upon which the physician may base his selection and directions for their use. Vitamins are essential nutrients and their usual and normal source is food. An adequate diet, therefore, should supply adequate amounts of the several vitamins for the maintenance of health in the normal individual. The article quotes, as a convenient guide to an adequate diet, a summary by the United States Department of Agriculture, which indicates the selection of certain key foods.

In summary, adults should have two or more cups of milk a day, two or more servings of the meat group, which include the various forms of meat, fish, eggs, and with dry beans and peas and nuts as alternates. There should be four or more servings of the vegetable-fruit group, and four or more servings of the bread-cereal group. Such a selection of foods will supply more than half of the caloric requirements and more than three-fourths of the vitamin allowances. Additional needs for the day will be furnished in the other foods normally included in the daily diet in the natural course of selection.

Simple but comprehensive tables are given as to recommendations. Recommended Daily Allowances are amounts of nutrients that will provide good nutrition in essentially all healthy persons. These were developed by the Food and Nutrition Board of the National Research Council. These should not be confused with the Minimum Daily Requirements established for labelling purposes by the Food and Drug Administration. These are amounts of nutrients needed to prevent symptoms of deficiency and to provide a small factor of safety. The recommendations in the statement pertain to

Recommended Dietary Allowances.

Since healthy persons whose diets are ordinarily considered adequate obtain sufficient amount of vitamins from their food, the administration of additional vitamin preparations is unnecessary. The vitamin preparations, however, are beneficial, under certain conditions, used in supplementation, or in therapeutics. C and D vitamins as dietary supplements are advised for infants and children, if the diet does not supply 30 milligrams of vitamin C and 400 USP units of vitamin D. Vitamin D should be administered if there is any doubt as to adequacy of intake in pregnancy and lactation. Supplementary vitamins are also useful when for any emotional or physical reason an individual is on a restricted or nutritionally inadequate diet. Such a need may develop in allergic states or chronic disease of the gastrointestinal tract, or similar pathological conditions.

The character of the supplementation advisable depends upon the conditions existing in the particular individual. "It is necessary for the physician to evaluate each person individually." Generalizations based upon inadequate surveys do not invalidate this principle.

Definite recommendations are made in regard to multivitamin combinations. It was advised that the amounts in the preparations approximate, but not greatly exceed, the Recommended Dietary Allowances. The Council discourages inclusion of such foods as liver, yeast, and wheat germ in the multivitamin mixtures. Vitamins in therapeutic amounts, as contrasted with supplemental use, have value in both specific and supportive therapy for various pathologic states.

The quantities should approximate simple multiples of the amounts recommended in "National Research Council's Recommended Dietary Allowances." Amounts greater than three to five times the Recommended Dietary Allowances are seldom needed. It is noted that there is little danger of harm from larger quantities of the water soluble vitamins because the excess is excreted readily. There is, however, real danger of toxicity from larger amounts of fat soluble vitamins because the excess accumulates in the body. There is an absence of excretory pathways for vitamins A and D, and for carotene. This makes it necessary to limit their intake to avoid hypervitaminosis. Such syndromes may appear with vitamins A and D. Daily dosage of more than 25,000 USP units of vitamin A should be followed carefully for toxicity. When large doses of vitamin D are administered frequent determinations of serum and urine calcium are necessary.

Patients should not increase their intake of vitamins above that advised by the physician. "There is a tendency for the patient to believe that if a little is good, more would be better." This has not been demonstrated, and the development of hypervitaminosis syndromes from A or D should be avoided.

This is the first comprehensive report on the use of vitamin preparations by the A.M.A. Its value as a guide is obvious. It will provide the physician with a brief and authoritative source of reference, and will support him in emphasizing that properly selected diets are the primary basis for good nutrition, and that individual selection of vitamin preparations is necessary in their use as dietary supplements.

Phillip L. White, Sc.D., A.M.A. Council on Foods and Nutrition: Vitamin preparations as dietary supplements and as therapeutic agents, J.A.M.A. 169:41 (Jan. 3) 1959.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

THE QUALITY FACTOR IN MEDICAL SPENDING

For some years now the volume of spending by the American public for hospital and physicians' services, and other items of medical care has been rising faster than the cost of living as a whole. Moreover, medical spending is becoming a more important part of the total family budget. In 1929, for example, medical care took 3.7 per cent of each dollar spent for consumer items. The comparable figure for 1957 was 5.3 per cent.

It seems obvious that the American public, increasingly aware of the value of good medical care, is willing to pay for it. Certainly it has reason to be.

Past issues of PROGRESS IN HEALTH SERVICES have documented major improvements in U.S. health standards since the start of the century—such accomplishments as the tremendous reduction in deaths from infectious diseases, declines in infant and maternal mortality, and the virtual disappearance of orphanhood as a significant social factor in American life.

These are some of the results of our modern system of medical care. They reflect the influence of improved training programs for physicians, expanded hospital facilities, new drugs, greater emphasis on preventive medicine, and dozens of other developments.

In the past, it's true, pain, disability, and serious illness could be faced at relatively little expense—simply because there was relatively little that could be done for a sick person. Now pain and disability can often be avoided and death greatly postponed—but at the cost of more visits to physicians, more admissions to hospitals, more use of drugs and other treatments.

Seen in this light, recent increases in spending for medical care do not seem excessive. In fact, many authorities believe that we do not yet spend enough for health items.

In particular, more could be done to ward off illnesses through such preventive measures as regular physical checkups and immunizations. Preventive medicine not only keeps people healthier but may even save money in the long run.

We could also improve methods of paying for medical services. Voluntary health insurance has done much to facilitate payments, but it still finances too small a portion of the total medical care purchased by the U.S. consumers. Although broad-coverage health insurance would not lower the nation's medical bill, it would make budgeting easier, and mean more adequate care for more people.

The experience of the last half century shows clearly that increased expenditures lead to better health. Solely on the basis of personal comfort, the public is acting wisely when it invests greater sums in medical services.

Thus, for the services of physicians, largest of components from 1929 through 1954, spending rose from $959 million in 1929 to $3,693 million in 1957, and on a per capita basis from $7.89 to $21.93. Although impressive, this increase was far overshadowed by those of the other components. The share of spending for physicians in the medical care dollar dropped from 32.6 to 24.5 cents, and its rank from first to second.

In 1929, spending for hospitals accounted for only 13.7 cents of the medical dollar, but by 1957 its share was nearly double at 25.8 cents.

Medical care is now becoming a more important part of the American standard of living, while as an "industry" it is becoming a more important part of the American economy.

EDITOR OF LOOK MAGAZINE CENSURED

The director of the American Hospital Association and the executive vice-president of the American Medical Association took issue with an article on practices in hospitals in a recent issue of Look magazine.

Dr. Edwin L. Crosby is director of the American Hospital Association. Dr. F. J. L. Blasingame is executive vice-president of the American Medical Association.

The joint release was authorized by both organizations.

Dr. Crosby wrote a letter to Vernon C. Myers, the magazine's publisher, commenting on the article by Roland H. Berg, Look medical editor.

He said, "One needn't believe that everything is perfect in our hospitals—as it is not in other public service programs—to conclude that the handling of an admittedly difficult problem by Mr. Berg and Look was most unfortunate."

Dr. Crosby termed the article's opening sentence—"A hospital is not a fit place in which to be sick"—as "an outrageous misstatement". He said "This statement is disproved by an abundance of evidence; the growing acceptance by the public of the hospital as the place to get well; the direct relationship between the drop in maternal mortality rates and the increasing

frequency with which hospitalization is sought for childbirth".

Dr. Crosby told the Look publisher that although "Mr. Berg devotes much space to patient dissatisfaction . . . the very study he quotes is at odds with his findings". The study on five hospitals in California was sponsored by the California Medical Association. Dr. Crosby said 95 and 94 per cent of the patients in the two hospitals studied in greatest detail were generally satisfied with their care and treatment.

The AHA director pointed out that hospitals have, for the last decade been continuously striving "to keep abreast of the explosive growth in medical science and to bring those advantages to the American people".

He observed, "It is difficult to keep apace, to meet the demands of the patients and physicians for even better and ever more complex care and at the same time solve the subtle human relations problem in a hospital".

"I am fearful that you may have unwittingly intensified a problem already difficult enough", Dr. Crosby wrote. He added, ". . . hospital administrators face the continuous problem of fitting inadequate amounts of money to increasing great needs. It is understandable that they trim in the area of scientific needs only as a last resort. We believe that there is a major national problem in the underfinancing of hospital care; a tremendous service deficit in our hospitals. The budgets are balanced somehow. We suspect that this balance is at the expense of the kind of hospital care that medicine and hospitals could provide and the kind of hospital care we believe that a properly educated public would finance".

Dr. Blasingame speaking for the American Medical Association, said:

"By taking isolated examples from a limited survey and drawing general inferences from them, Look not only has done a grave injustice to the medical profession and to hospitals but to the readers of the magazine.

"The blanket condemnation of all hospitals, based on a survey of five hospitals out of 5,640, is deplorable. Actually, the survey reported a tremendous degree of patient satisfaction, the lowest cited figure being 94%. This was not mentioned in the Look article.

"While the article purportedly calls for better physician-patient relationships, it actually harms the patient's confidence in the care he will receive from his physician and in the hospital, so essential for the best in medical care. The article cannot help but increase the natural insecurity of the afflicted and the suffering.

"The article also violates the basic concepts of sound reporting. Matters such as these cannot be considered adequately or accurately covered until both sides of the question are reported with fidelity and without distortion.

"The medical and hospital professions have been sincere in devoting their efforts to a continuing program of self-improvement designed to benefit our patients. We welcome constructive suggestions to help us do even better. For the sake of our patients, we must object to those we believe will be harmful."

SELECTIVE SERVICE SYSTEM

Reserve Status

The National Committee has voted to notify medical schools and hospitals that if any of their staff or faculty are members of the Ready Reserve, they and the individuals concerned should make note of the fact that they will be expected to go when called and not be declared essential to the institutions at the time such a call is made.

If any such individuals are now in essential positions — either on faculty or staff — they should request transfer from the Ready Reserve to the Standby Reserve; otherwise the Ready Reserve is not a Ready Reserve.

By making such transfer they will, of course, lose pay. They will not lose credit toward retirement.

This should be looked into at the present time and straightened out now rather than waiting for an emergency to occur. In other words, it is essential for the medical schools and the hospitals to determine the military status of the members of their faculties and staffs. In that way and only that way will they realize what their loss would be on the day an emergency is declared.

This obligation of members of the Ready Reserve to serve when called also applies to physicians in private practice. Only in very exceptional cases would such individuals be given consideration for delay due to essentiality.

The following editorial was found in the Plaquemine Gazette. The Medical profession sincerely appreciates this editorial and only hopes more publications in our State will likewise sponsor our cause in opposing Socialized Medicine.

COLD COMFORT

What kind of a system of medical care do the people of this country want?

The answer is that more than three-quarters of them want a system whereby they have the right to choose their own doctor — and, in addition, they want to assume all or part of the responsibility for paying their doctor bills.

These are findings of a recent survey conducted by the Opinion Research Corporation for the American Medical Association. It was

also found that 88 per cent of the population believe the right to see the same doctor regularly is of vital importance, and that 89 per cent believe that medical care in this country has improved over the past 20 years.

On choosing the doctor, 76 per cent said they wanted to make the choice themselves, as against 13 per cent who saw no difference whether they or someone else made the choice, 8 per cent who preferred to have someone else choose, and 3 per cent with no opinion.

On the matter of paying the doctor bills, a hefty 79 per cent said they wanted to carry all or part of the load, either by direct payment or by paying a share of insurance premiums.

There's cold comfort in this for the advocates of socialized or government-run medicine. And there's equally cold comfort for any medical care system, whether governmental or otherwise, which deprives the patient the freedom of choice.

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

AMERICAN CANCER SOCIETY TELEVISION PROGRAM

The American Cancer Society has made arrangements nationally with educational television for a series of six half-hour programs on the subject of cancer control. These programs, entitled **Tactic,** will deal with:

1) Developing constructive and positive attitudes toward cancer to answer negative attitudes such as "Once you've got it, nothing can be done".
2) Educating to the realities of cancer, its nature, symptoms, treatment and cure rate.
3) Educating to the nature of cervical cancer and persuading women to have cell examinations for uterine cancer.
4) Educating to the nature of breast cancer, persuading women to learn and practice the technique of breast self-examination and to see their doctors for annual health checkups.
5) Educating the public to the facts about cancer in men, including lung cancer, and to consider the attitudes of men toward the problem.
6) Evaluating progress in cancer research including advances being made toward control of leukemia, a form of cancer with a rising death rate.

Dr. Charles S. Cameron, former Medical and Scientific Director of the American Cancer Society, and presently Dean of the Hahnemann Medical College of Philadelphia, will discuss the above subjects, and such popular artists as Jim Backus, Stephen Bosustow, Alfred Hitchcock, Ruth Hussey, Walt Kelly, Mata and Hari, Hy Zaret and Lou Singer, and Arnold Gingrich will help him present his material in an easily understood fashion.

Our local educational television station, WYES-TV, Channel 8, has scheduled this series for 9:30 P.M. on Tuesday evenings, beginning February 24.

GRANT TO TULANE FOR REHABILITATION FACILITY

A grant of $207,000 has been made to Tulane University School of Medicine by the Department of Health, Education and Welfare for the construction of a rehabilitation facility within the proposed new medical school building.

The evaluation and referral unit of the facility will be under the direction of an independent agency sponsored by the New Orleans Council of Social Agencies. This unit will provide com-

prehensive medical evaluation, planning and referral for patients needing rehabilitation. Other services to be rendered will include physical, occupational and speech therapy, psychiatric services, vocational and prevocational counseling and training, social casework and group work, and the fitting of prosthetic appliances and braces. The rehabilitation facility will handle referrals from private physicians and clinics and other referring agencies in Louisiana.

Tulane University has embarked upon a $16,000,000 campaign to make possible the new building and renovation of the present building. The new grant will be applied toward the total cost of the rehabilitation facility which has been estimated at $380,000.

COMING MEETING

The Southwestern Society of Nuclear Medicine will hold its fourth annual meeting at the Roosevelt Hotel in New Orleans, Louisiana, on March 14-15, 1959.

THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

Evening Session

MONDAY, MARCH 2

Roosevelt Hotel — Grand Ball Room

JOINT MEETING WITH THE ORLEANS PARISH MEDICAL SOCIETY

Hugh T. Beacham, M.D., Presiding

8:00 p.m.—Clifford J. Barborka, M.D., Gastroenterology, Diverticulosis and Diverticulitis

8:30 p.m.—CLINICOPATHOLOGIC CONFERENCE
Francis Bayless, M.D., Pathology
J. Henry Janton, M.D., Cardiology
Malcom E. Phelps, M.D., General Practice
John M. Dorsey, M.D., Surgery

CALCASIEU PARISH MEDICAL SOCIETY ELECTS NEW OFFICERS

The following officers were elected at the last regular meeting of the Society:

President—Dr. E. C. Campbell
Vice-President—Dr. W. M. Farmer

(Dr. Farmer will automatically succeed to the presidency in 1960)

Secretary—Dr. J. M. Swain
Treasurer—Dr. L. M. Warshaw

Delegates

3 year term—Dr. C. S. Magee; 2 year term—Dr. T. H. DeLaureal, Dr. P. L. McCreary; 1 year term—Dr. J. W. Crookshank, Dr. J. M. Swain.

Alternate-Delegates

3 year term—Dr. C. O. Frederick; 2 year term—Dr. G. E. Barham, Dr. L. M. Warshaw; 1 year term—Dr. L. D. Bishop, Dr. Neal Blanchard.

A.M.A. COMMITTEE TO STUDY INDUSTRIAL MENTAL HEALTH

The employee who "carries his home troubles to work" may be an even greater problem than the one who carries his work troubles home.

While most leaders and employees are temperamentally in tune with their jobs, "there is enough personal worry and disturbance in their ranks to pose a real threat to the well-being of the labor force," an editorial said in the Nov. 8 Journal of the American Medical Association.

It pointed out that these off-the-job disturbances carry "a germ of communicability which might infect co-workers as surely as a sneeze might infect them with the common cold."

The A.M.A., mindful of the many-sided problem of industrial mental health, has established a Joint Committee on Mental Health in Industry, with members named by its Councils on Mental Health and Industrial Health. Dr. Ralph T. Collins, Rochester, N. Y., an industrial psychiatrist, is chairman.

"Of all the factors that influence mental health in office and factory, the foremost is leadership," according to a special article in the same Journal. The way a leader handles his own problems affects the way his employees think about him and the company and how they handle their own problems.

"Much of job satisfaction depends on the personal values that are gained in human relationships through mutual respect and dignity, confidence and belonging and, yes, love," the article quoted Dr. William C. Menninger, Topeka, Kan., as saying.

Thus management must be aware of its deep involvement in the worker's personal problems and it needs medical guidance in dealing with employees so that emotional difficulties will not be created or aggravated, the article said.

GRANT SUPPORT

The National Institute of Mental Health is offering grant support for a training program for general practitioners and other physicians engaged in the practice of medicine other than psychiatry. Funds are available during the current year (fiscal year 1959) for these grants and training institutions may submit applications at any time.

The program has two purposes:

I. To foster the development of postgraduate training in psychiatry for the practitioners who wish to increase their psychiatric knowledge and skills in order to be able to deal more effectively with the emotional aspects of illness generally and in order to play a more effective role in the treatment and prevention of mental illness. These courses will be designed for the physician who plans to continue practicing in his own field.

Grant support is being offered to medical

schools, hospitals, clinics, and medical and psychiatric societies for the development and expansion of such postgraduate training in the form of courses, institutes, and seminars. This support does not include fees, subsistence, or travel for the physicians who attend.

Support of this type of training may be for a particular professional group over a given period, or for training offered regularly as part of the postgraduate curriculum of a medical school, hospital, or clinic, or as part of the educational program of a medical or psychiatric society.

Physicians interested in obtaining this type of training should apply to medical schools, hospitals, clinics, and medical or psychiatric societies which have, or are developing, such training opportunities.

II. To provide support at an adequate level for psychiatric residency training for physicians in practice who wish to become psychiatrists. Training stipends up to a maximum of $12,000 a year are available. The level of payment will be determined by the training institutions who will also make the award to the individual physicians. The National Institute of Mental Health will make awards of grants for this purpose to training institutions and not to individuals.

Physicians interested in support for this type of training should apply to training institutions which are approved for psychiatric residency training.

Inquiries about the program should be sent to Dr. Seymour D. Vestermark, Chief, Training Branch, National Institute of Mental Health, National Institutes of Health, Bethesda 14, Maryland.

LEATHER TANNING SUBSTANCE CAUSES "SHOE DERMATITIS"

A chromium salt used to tan leather has been found to cause skin eruptions on the feet, according to a Boston dermatologist.

The material has long been suspected of causing dermatitis, but it has never—until recently—been available for use in patch-testing which would prove its effect on the skin, Dr. George E. Morris said.

His is the first report of a study in which persons suspected of having shoe dermatitis have actually been tested with the chrome salt found in their shoes, he said in the November Archives of Dermatology, published by the American Medical Association.

He found four patients with shoe leather dermatitis who reacted positively to the chrome salt. In addition, two leather workers who previously had "chrome dermatitis" reacted positively to the material.

The chrome salt joins a number of other substances found in shoes that cause dermatitis. They include dyes and other chemicals in the leather, the material used in the box toes of shoes, and rubber adhesives.

The chrome salt is leached from shoe leather by an acid in perspiration and deposited on the skin, Dr. Morris said. He noted that it has long been believed that the chrome salt could not be separated from the leather. However, two leather chemists recently proved that it could be.

The dermatitis will clear if the patient stops wearing leather shoes.

HEART DISEASE USED AS ANXIETY DEFENSE

For some persons to face life, they may need to believe they have heart disease even when it has been proved they do not, three eastern physicians said.

Their conviction may represent a necessary defense against "potentially overwhelming anxiety," the doctors said in the recent Nov. 22 Journal of the American Medical Association.

They made a six-year study of 52 persons with chest pain. Of these 27 were classified as having a "cardiac neurosis," in which they showed no evidence of heart disease but were convinced of its presence.

Twenty-five had angina pectoris, a disease marked by paroxysmal chest pain with a feeling of suffocation and impending death. Caused by an oxygen shortage in the heart, angina pectoris is usually precipitated by effort or excitement.

The 27 patients who believed they had heart disease were "all intensely anxious people whose neurotic behavior was readily apparent," the doctors said. They tended to dramatize their symptoms and often referred to their "heart pain." Some of them were totally incapacitated, while others were able to lead an active and constructive life in spite of their symptoms.

They showed a "high degree of secondary gain" from their ailment, the doctors said. In some the pain represented a means for setting limits to their activities and freed them temporarily from intense pressures or responsibilities. It seemed to act as a means of getting attention and of controlling family members. In others, the pain represented an acceptable "excuse" for failing to attain certain objectives. For some, there was a definite monetary compensation from their pain.

MEDICAL SCHOOLS HAVE RECORD ENROLLMENT

American medical colleges had a record enrollment of 29,473 students in 1957-58.

Sixty of the 85 operating medical schools reported major construction, costing 47 million dollars, in the planning, beginning, or completion stages.

Forty-nine schools reported major developments and changes in administrative organization, methods of student selection, curriculum, and financing.

An estimated 275 million dollars was spent by the medical schools in 1957-58, an increase of 13 per cent over the preceding year.

These were among the many facts and figures in the 58th annual report on medical education by the American Medical Association's Council on Medical Education and Hospitals. The 90-page report appears in the Nov. 15 Journal of the A.M.A.

The report illustrates some of the changes and developments being made in medical schools to meet the changing medical needs of the American people.

BOXERS' CUTS MAY ARISE FROM KIDNEY INJURIES

Many facial cuts suffered by boxers may come as a result of injury to the kidney area, sustained while fighting.

This theory was advanced by a New York physician in an article appearing in the Nov. 22 Journal of the American Medical Association.

Dr. Aaron H. Kleiman reached this conclusion following a three-year urologic study of 764 professional boxers participating in 150 events at Madison Square Garden and at St. Nicholas Arena in New York.

The study was undertaken to determine the correlation between hematuria (blood in the urine) and kidney injuries.

Dr. Kleiman said, "I was impressed with the fact that 60 per cent of the subjects who suffered post-bout lacerations of the eyelid, face, or head showed significant hematuria."

Many seasoned veterans go through an entire career with little or no history of laceration. Others cut easily regardless of experience or the number of rounds boxed.

He said that it was possible that the correlation between abdominal injury and facial laceration exists purely by chance and that a badly beaten athlete is more prone to lacerations and kidney injury.

WOMAN'S AUXILIARY

TO THE LOUISIANA STATE MEDICAL SOCIETY

BOARD MEETING OF STATE AUXILIARY

Mrs. Edward M. Harrell, president Woman's Auxiliary to the Louisiana State Medical Society, called the mid-year board meeting of the Auxiliary for January 19-20 in Lafayette, Louisiana.

The meeting was held at 10:00 A.M. on Tuesday, January 20th at the War Memorial building with luncheon following at 1:00 P.M. at the Oakbourne Country Club.

Attending the meeting were the officers and board members of the Woman's Auxiliary to the Louisiana State Medical Society, District Councilors and the Parish presidents and presidents-elect.

All reports were given and all projects taken up on the floor.

The Bayou country hospitality can not be surpassed and it was abundantly dispersed in Lafayette on January 19th and 20th.

Mrs. Branch J. Aymond,
Press and Publicity.

ORLEANS PARISH

Entertaining at a program tea on Wednesday, January 14, at 2:30 o'clock at the Orleans Club were the members of the Woman's Auxiliary to the Orleans Parish Medical Society. Mr. Francis L. Fraenkel was the guest speaker and his subject was "Investments for the doctor's wife"

Receiving in the drawing room with the president, Mrs. Albert William Habeeb, were Mmes. Virgil A. Robinson, C. A. Allenburger, Jr., and Maffre R. Matta.

Guests of honor at the tea were the officers and board members of the Woman's Auxiliary to the New Orleans Dental Association.

Presiding at the tea and coffee services were Mmes Joseph F. Craven, Frank S. Oser, Jr., and Arthur C. Davidson.

Assisting in the dining room were Mmes James L. Treadway, Albert B. Pavy, Jr., Stan Middleton and William Terral.

Mrs. Branch J. Aymond,
Chairman Publicity.

BOOK REVIEWS

Technique of Fluid Balance; by Geoffrey H. Tovey, M.D., Springfield Illinois, Charles C Thomas, 1957, Pp. 100, $2.50.

Among the many monographs appearing currently on the subject of fluid balance, G. H. Tovey's book (from the Southwest Regional Blood Transfusion Service, Southmead, Bristol) has the outstanding attribute of brevity. His aim is stated "to provide the busy doctor with a concise and practical outline" of fluid balance therapy and particularly "to guide the doctor who has no laboratory facilities" conveniently available. This purpose he strives to accomplish in 90 pages devoted to the consideration of normal and abnormal fluid balance and to "rules of thumb" for treatment based on this basic physiology. There are also sections on the adverse effects of treatment and on the special problems of diabetics, children, surgery patients, and those with acute tubular necrosis. The disadvantage of the author's presentation is that his discussion of fundamental principles is so brief as to be more of a review than an introduction to the subject. A more extensive bibliography might have answered this objection. The specific recommendations for treatment of adults are in line with those of other workers. Sodium replacement seems to be calculated on the assumption of even distribution throughout total body water. The requirements for children are based on the work of Dodd and Rappaport and do not include the results of more recent work. There are a number of summarizing tables of data; the one on the composition of common parenteral solutions does not contain many commercially available in the United States. There is a helpful emphasis on the use of clinical observation and bedside chemical determinations (urine chlorides, serum chloride, bicarbonate and B.U.N.) in evaluating initial needs and results of treatment.

JEANNE M. HORAN, M.D.

Clinical Gastroenterology, by Eddy D. Palmer, New York, N. Y., Hoeber-Harper, 1957, Pp. 630, Price $18.50.

It is hard to overestimate the importance of this book to medical students and beginners in gastroenterology. It is well written and contains information on scientific advances in gastroenterology. The author obviously has some insight into the problem of emotional conflict as a cause of gastrointestinal disease. There is much original thought and it becomes apparent that Dr. Palmer is not mouthing the words of other giants in the field.

There are important references at the end of each section. The index is poor.

The text can certainly be recommended for the library, for students and practitioners of medicine.

FRED M. HUNTER, M.D.

Practical Psychiatry for Industrial Physicians; by Dr. W. Donald Ross, Springfield, Ill., C. C Thomas, 1957. 401 p. Price $7.50.

This volume really constitutes a "must" for physicians dealing with industrial medicine. Any physician could well benefit from some parts of the wide scope of Dr. Ross' work.

Dr. Ross writes from an extensive personal experience in dealing with medical problems in industry. He has been active teaching psychiatry, not only to medical students and psychiatric residents, but to industrial physicians. He has been active in industrial consultations and in research in the field. He has participated on national committees concerning industrial problems.

Cases are carefully presented to provide non-psychiatric physicians with an understanding of psychiatric problems and appropriate therapy. It serves as an encyclopedic accumulation of the most recent thought in the field of practical psychiatry for industrial physicians. It should aid the physicians to make use of the simple methods of psychiatry and at the same time be able to recognize situations calling for more expert handling than they can provide.

Dr. Ross discusses various organic industrial ailments and elaborates on psychopathology that might be associated. Among the especially interesting chapters are those on absenteeism and turnover, executives and promotion, and job stresses. The chapters concerning accidents and their sequelae and disability are basic to problems which physicians in general will be seeing in ever increasing numbers in the future. This reviewer can strongly recommend this volume for all physicians.

GENE L. USDIN, M.D.

PUBLICATIONS RECEIVED

Grune & Stratton, Inc., N. Y.: Personality Change and Development as Measured by the Projective Techniques, by Molly Harrower, Ph.D.

Paul B. Hoeber, Inc., N. Y.: Clinical Obstetrics and Gynecology, December, 1958 (Genital Cancer, Edited by Daniel G. Morton, M.D.; Operative Obstetrics, edited by J. Robert Willson, M.D.)

W. B. Saunders Company, Phila.: The Psychology of Medical Practice, by Marc H. Hollender, M.D.

Vantage Press, Inc., N. Y.: The Sedimentation Rate of Human Erythrocytes, by Frank Wright, M.D.

The Williams & Wilkins Co., Balt.: Diseases of Children in the Subtropics and Tropics, by H. C. Trowell, M.D., and D. B. Jelliffe, M.D.; Having a Baby (2nd edit.) by J. F. Robinson, M.B., CH.B.



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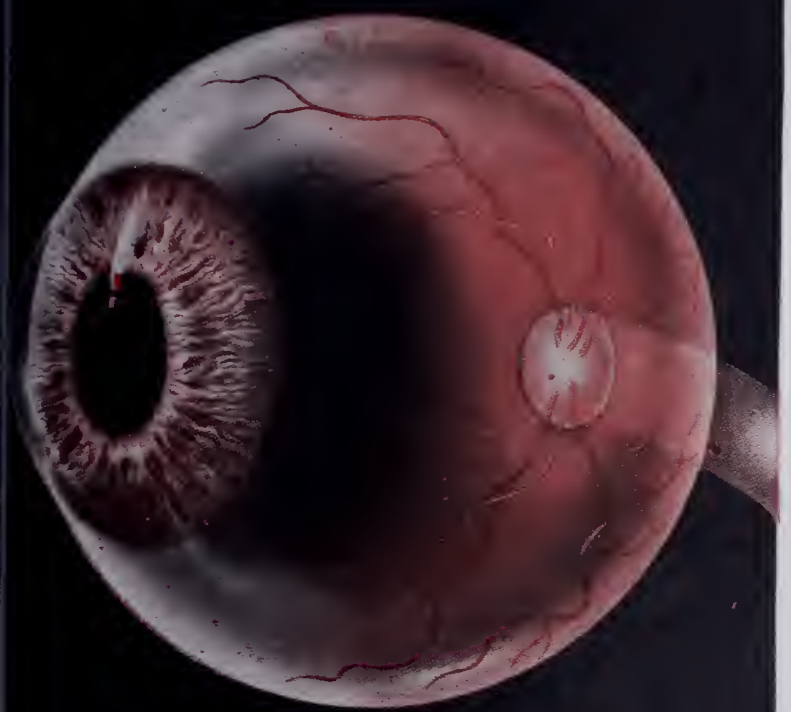
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*A Symposium on the Pharmacologic Effects of Dartal on the Liver, Chicago, Searle Research Laboratories, Feb. 7, 1958.

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Reinhardt, D. J.:
Delaware State Med. J. 30:1, January 1958.

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Bunn, W. H., Jr.:
Ohio State Med. J. 54:1168, September 1958.

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Herrmann, G. R., Hejtmancik, M. R., Graham, R. N. and Marburger, R. C.:
Texas State J. Med. 54:639, September 1958.

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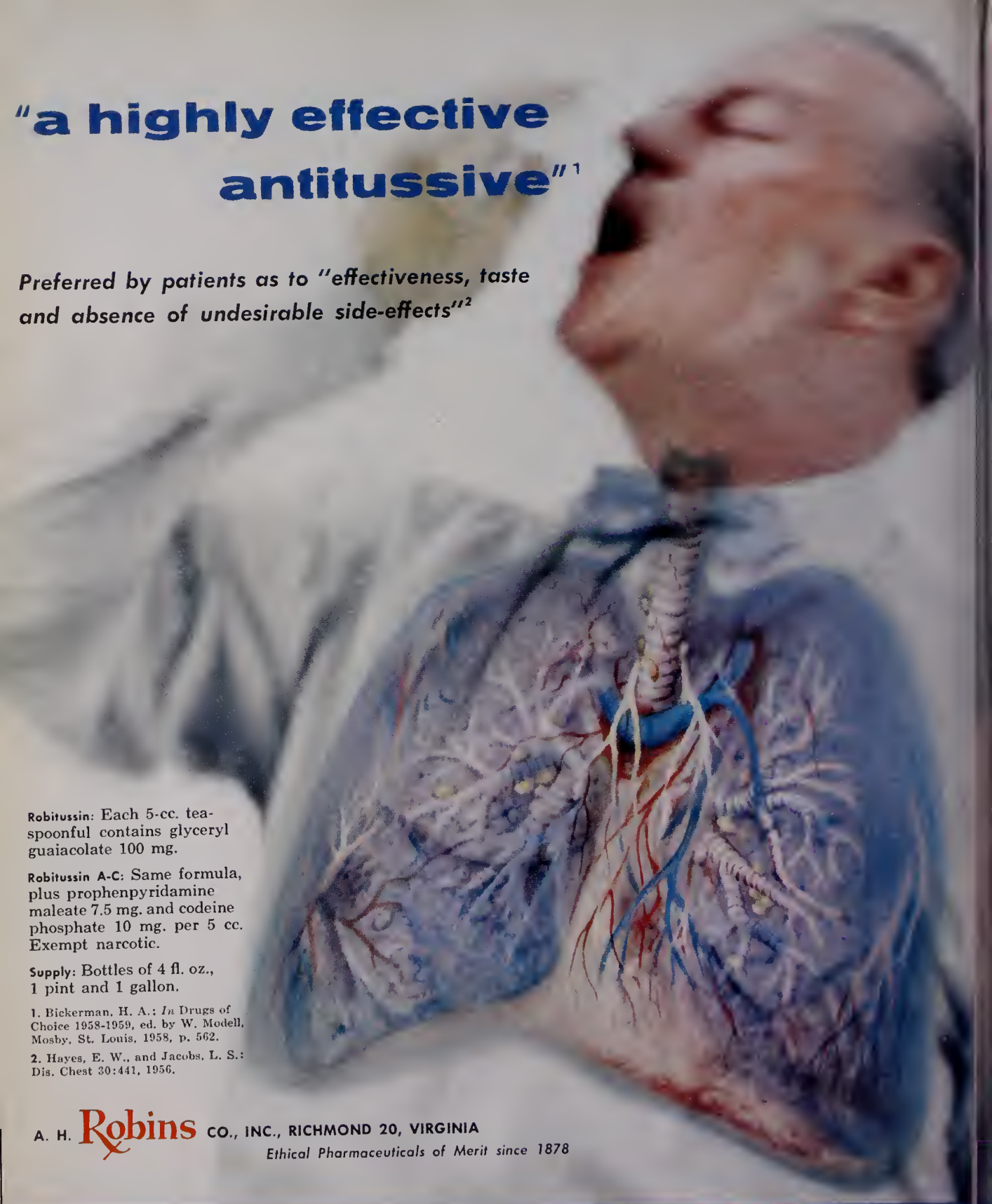
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1. Bickerman, H. A.: *In* Drugs of Choice 1958-1959, ed. by W. Modell, Mosby, St. Louis, 1958, p. 562.

2. Hayes, E. W., and Jacobs, L. S.: Dis. Chest 30:441, 1956.

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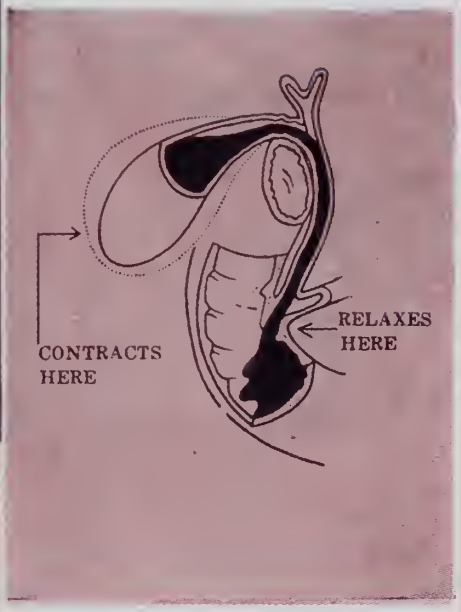
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1. Herland, A. L., Lowenstein, A.: Quart. Rev. Surg. Obst. & Gynec. 14:196 (Dec.) 1957

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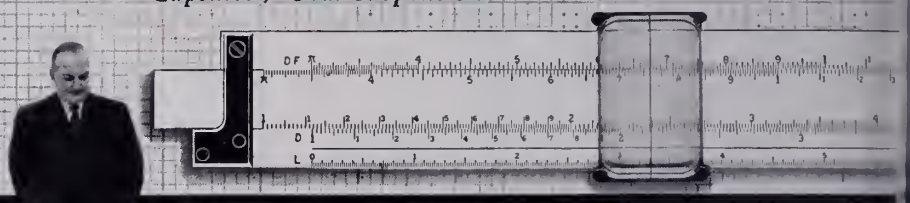
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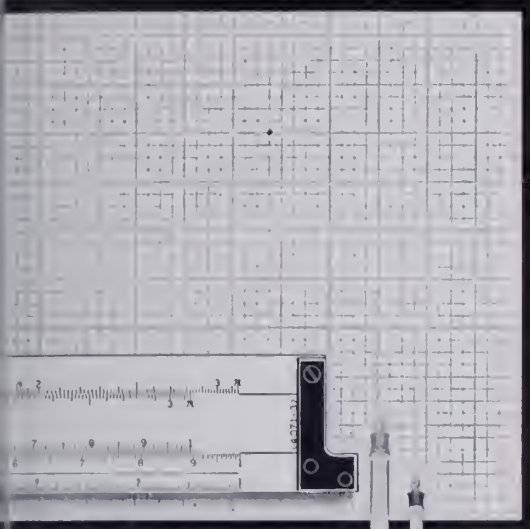




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ALL INFECTIONS	**558**	**448**	**80**	**30**
Respiratory infections	**258**	**208**	**31**	**19**
Pharyngitis and/or tonsillitis	65	58	5	2
Pneumonia	90	66	17	7
Infectious asthma	44	38	–	6
Otitis media	31	29	2	–
Other respiratory (bronchitis, bronchiolitis, bronchiectasis, pneumonitis, laryngotracheitis, strep throat)	28	17	7	4
Skin and soft tissue infections	**230**	**191**	**38**	**1**
Infected wounds, incisions and lacerations	41	33	8	–
Abscesses	51	43	8	–
Furunculosis	58	51	6	1
Acne, pustular	43	28	15	–
Pyoderma	19	19	–	–
Other skin and soft tissue (infected burns, cellulitis, impetigo, ulcers, others)	18	17	1	–
Genitourinary infections	**28**	**19**	**3**	**6**
Acute pyelitis and cystitis	10	8	2	–
Urethritis with gonorrhea or cystitis	8	8	–	–
Pyelonephritis	4	1	–	3
Salpingitis	5	1	1	3
Pelvic inflammation with endometriosis	1	1	–	–
Miscellaneous (adenitis, enteritis, enterocolitis, subacute bacterial endocarditis, fever, hematoma, staphylococcus carriers, osteomyelitis, tenosynovitis, septic arthritis, acute bursitis, periarthritis)	**42**	**30**	**8**	**4**

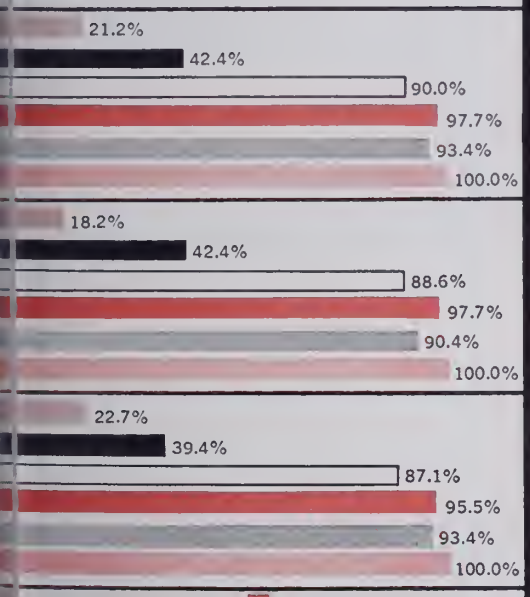


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References: 1. Koch, R., and Asay, L. D.: J. Pediat., in press. 2. Leming, B. H., Jr., et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 3. Mellman, et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 4. Olansky, S., and McCormick, G. E., Jr.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 5. Shubin, H., et al.: Antibiotics Annual 1957-1958, New York, N. Y., Medical Encyclopedia, Inc., 1958, p. 679. 6. Isenberg, H., and Karelitz, S.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 7. Wennersten, J. R.: Antibiotic Med. & Clin. Therapy 5:527 (Aug.) 1958. 8. Kaplan, M. A., and Goldin, M.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 9. Truant, J. P.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958.

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Supplied: In bottles of 36 capsules.

TAOMID* (TAO with triple sulfas)

For dual control of Gram-positive and Gram-negative infections.

Supplied: Tablets, bottles of 60. Oral Suspension, bottles of 60 cc.

Intramuscular or Intravenous

For direct action – in clinical emergencies.

Supplied: In 10 cc. vials.

*TRADEMARK

Rx Pfizer

New York 17, N.Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being



Lowers blood pressure — maintains mental alertness

calms the patient under stress

Rautensin provides a smooth, gradual and sustained reduction of blood pressure without sudden rebounds or abrupt declines.[1] Rautensin's tranquilizing properties calm the tense and anxious hypertensive without impairing alertness, without producing excessive lethargy or drowsiness.

The risk of Rauwolfia-induced depression is markedly reduced since the alseroxylon fraction alone is used.[2] Even on long-term administration side actions "...are either completely absent or so mild as to be inconsequential."[3]

Rautensin®

Each tablet contains 2 mg. of the purified alseroxylon complex of Rauwolfia serpentina

1. Wright, W. T., Jr.; Pokorny, C., and Foster, T. L.: Kansas M. Soc. *57*:410, 1956. 2. Gilchrist, A. R.: Brit. M. J. *2*:1011 (Nov. 3), 1956. 3. Terman, L. A.: Illinois M. J. *3*:67, 1957.

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska



JUST 1 TABLET DAILY

WHENEVER SULFAS ARE INDICATED

KYNEX*

Sulfamethoxypyridazine Lederle

provides therapeutic sulfa levels for 24 hours... Highly soluble... rapidly absorbed... produces fast, sustained plasma-tissue concentrations. Simple, easy-to-remember, single 0.5 Gm. daily dose. No crystalluria. [1]

with low incidence of sensitivity reactions... Extremely low in toxic potential. [2,3] No cutaneous or other objective reactions seen in a wide scale study of clinical toxicity. [2] Even minor subjective reactions are not expected to occur [2] or are reported absent [3] when recommended schedule is used.

TABLETS, 0.5 Gm., bottles of 24 and 100. New ACETYL PEDIATRIC SUSPENSION, cherry flavored, 250 mg. sulfamethoxypyridazine activity per teaspoonful (5 cc.), bottles of 4 and 16 fl. oz.

1. Editorial: New England J. Med. 258:48, 1958.
2. Vinnicombe, J.: Antibiotic Med. & Clin. Ther. 5:474, 1958.
3. Sheth, U. K., et al.: Ibid., p. 604, 1958.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, N. Y.

*Reg. U.S. Pat. Off.

Lederle

IN OFFICE SURGERY

ELECTIVE AND TRAUMATIC

use XYLOCAINE *first...*
as a local anesthetic
or a topical anesthetic

SWAB SPRAY INFILTRATION NERVE BLOCK



Xylocaine HCl solution, the versatile anesthetic for general office surgery, relieves pain promptly and effectively with adequate duration of anesthesia. It is safe and predictable. Local tissue reactions and systemic side effects are rare. Supplied in 20 cc. and 50 cc. vials; 0.5%, 1% and 2% without epinephrine and with epinephrine 1:100,000; also in 2 cc. ampules; 2% without epinephrine and with epinephrine 1:100,000.

XYLOCAINE® HCl SOLUTION
(brand of lidocaine*)

Astra Pharmaceutical Products, Inc., Worcester 6, Mass., U.S.A.

PDR

*U.S. PAT. NO. 2,441,448 MADE IN U.S.A.

83% MAJOR (Grade I and II) IMPROVEMENT*

in Rheumatoid Arthritis

*Using combined drug therapy with **PLAQUENIL**® or Aralen® as maintenance therapy. With Plaquenil or Aralen alone 62% grade I and II improvement. (Scherbel, A.L.; Harrison, J.W., and Atdjian, Martin: Cleveland Clin. Quart. 25:95, April, 1958. Report on 805 patients with rheumatoid arthritis or related diseases.)

Reasons for Failure:

1. Treatment discontinued too soon (percentage of patients improved increases substantially after first six months).
2. Patients in relapse after prolonged steroid therapy are resistant to Plaquenil or Aralen treatment for several months.

Plaquenil sulfate is supplied in tablets of 200 mg., bottles of 100.

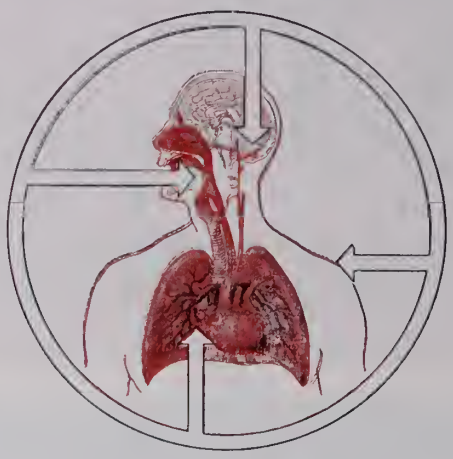
Dose: Initial — 400 to 600 mg. (2 or 3 tablets) daily.
Maintenance — 200 to 400 mg. (1 or 2 tablets) daily.

Write for Booklet.

n (brand of chloroquine) and Plaquenil
d of hydroxychloroquine), trademarks reg. U.S. Pat. Off.

Winthrop LABORATORIES
New York 18, N. Y.

Now—All cold symptoms can be controlled



Provides Triaminic for more complete and more effective relief from nasal and paranasal congestion because of systemic transport to *all* respiratory membranes—without drawbacks of topical therapy.†

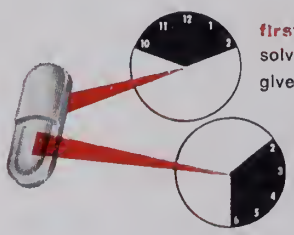
Provides well-tolerated APAP (N-acetyl-p-aminophenol) for prompt and effective analgesic and antipyretic action to make the patient more comfortable.

Provides Dormethan (brand of dextromethorphan HBr) for non-narcotic antitussive action on the cough reflex center in the medulla—as effective as codeine but without codeine's drawbacks.

Provides terpin hydrate, classic expectorant to thin inspissated mucus and help the patient clear the respiratory passages.

†Lhotka, F. M.: Illinois M. J. 112:259 (Dec.) 1957. Fabricant, N. D.: E. E. N. T. Monthly 37:460 (July) 1958. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

Special "timed release" design



first—the outer layer dissolves within minutes to give 3 to 4 hours of relief

then—the inner core releases its ingredients to sustain relief for 3 to 4 more hours

also available for those patients who prefer liquid medication: Tussagesic suspension

Each TUSSAGESIC tablet provides:

TRIAMINIC®	50 mg.
(phenylpropanolamine HCl	25 mg.
pheniramine maleate	12.5 mg.
pyrilamine maleate	12.5 mg.)
Dormethan (brand of dextromethorphan HBr)	30 mg.
Terpin hydrate	180 mg.
APAP (N-acetyl-p-aminophenol)	325 mg.

Dosage: One tablet in the morning, midafternoon and in the evening, if needed.

Tussagesic* *timed-release tablets*

Contains* **TRIAMINIC *to* STOP *running noses* *and open stuffed noses orally*

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska • Peterborough, Canada

Established Standard Therapy in Hypertension*

Rauwiloid®

alseroxylon, 2 mg.



just two tablets at bedtime

After full effect one tablet suffices

Because

Rauwiloid provides effective Rauwolfia action virtually free from side effects... the smooth therapeutic efficacy of Rauwiloid is associated with significantly less toxicity than reserpine... and with a lower incidence of depression. Tolerance does not develop.

Rauwiloid is initial therapy for every hypertensive patient. ...Dosage adjustment is never a problem...

•

When more potent drugs are needed, prescribe one of the *convenient single-tablet combinations*

Rauwiloid® + Veriloid®

alseroxylon 1 mg. and alkavervir 3 mg.

or

Rauwiloid® + Hexamethonium

alseroxylon 1 mg. and hexamethonium chloride dihydrate 250 mg.

Many patients with severe hypertension can be maintained on Rauwiloid alone after desired blood pressure levels are reached with combination medication.

Riker

Northridge, California

Exactly how does new Halodrin* restore the "premenopausal prime" in postmenopausal women?

Webster defines "prime" as the period of greatest health, strength, and beauty. In a woman, these are the childbearing years between puberty and menopause—the years when her hormone production is highest.

The inevitable reduction in this hormone production as she enters the menopause often results in physical discomfort in the form of hot flushes, nervousness, insomnia, or a multiplicity of other symptoms with which you are familiar. Superimposed on this physical picture is the psychic trauma brought on by this unavoidable evidence of aging. The thing that brings her to a physician is simply that she "feels bad."

You can't make her 35 again—but the odds are good that you can make her feel like it! The secret is a combination of reassurance and hormones. The exact form and amount of the former defy objective analysis, but the latter can now be provided with scientific precision. Reduced to essentials, here is the explanation of exactly how hormones—in the form of Upjohn's new Halodrin—restore the "premenopausal prime."

The normal premenopausal woman excretes estrogens in the urine in the form of estradiol, estrone, and estriol, in an approximate 28-day average ratio of 39:15:46. Starting with this urinary excretion of estrogens, it is possible to calculate backwards and estimate the amount of estradiol that must have been secreted endogenously in order to produce these urinary levels. This is possible because the proportion of estrogens which appears in the urine following parenteral administration has been established in castrated women.

On this basis, the average endogenous output of estrogens is about 160 micrograms per day during a menstrual cycle, and 80 micrograms per day in postmenopausal women (see chart opposite). Therefore, the restoration of the "premenopausal prime" in the postmenopausal woman requires the replacement of approximately the equivalent of the 80 micrograms of estradiol per day that she no longer secretes endogenously.

Oral ethinyl estradiol is about 2 to 2½ times as potent as parenteral estradiol. Therefore, the replacement of 80 micrograms of endogenous estradiol production per day is accomplished by the oral administration of 32 to 40 micrograms of ethinyl estradiol per day.

Each Halodrin tablet contains 20 micrograms of ethinyl estradiol, which means that the recommended dosage of 2 tablets per day provides 40 micrograms of ethinyl estradiol. This offsets the loss of 80 micrograms of endogenous estradiol production in the menopausal woman; i.e., restores the "premenopausal prime."

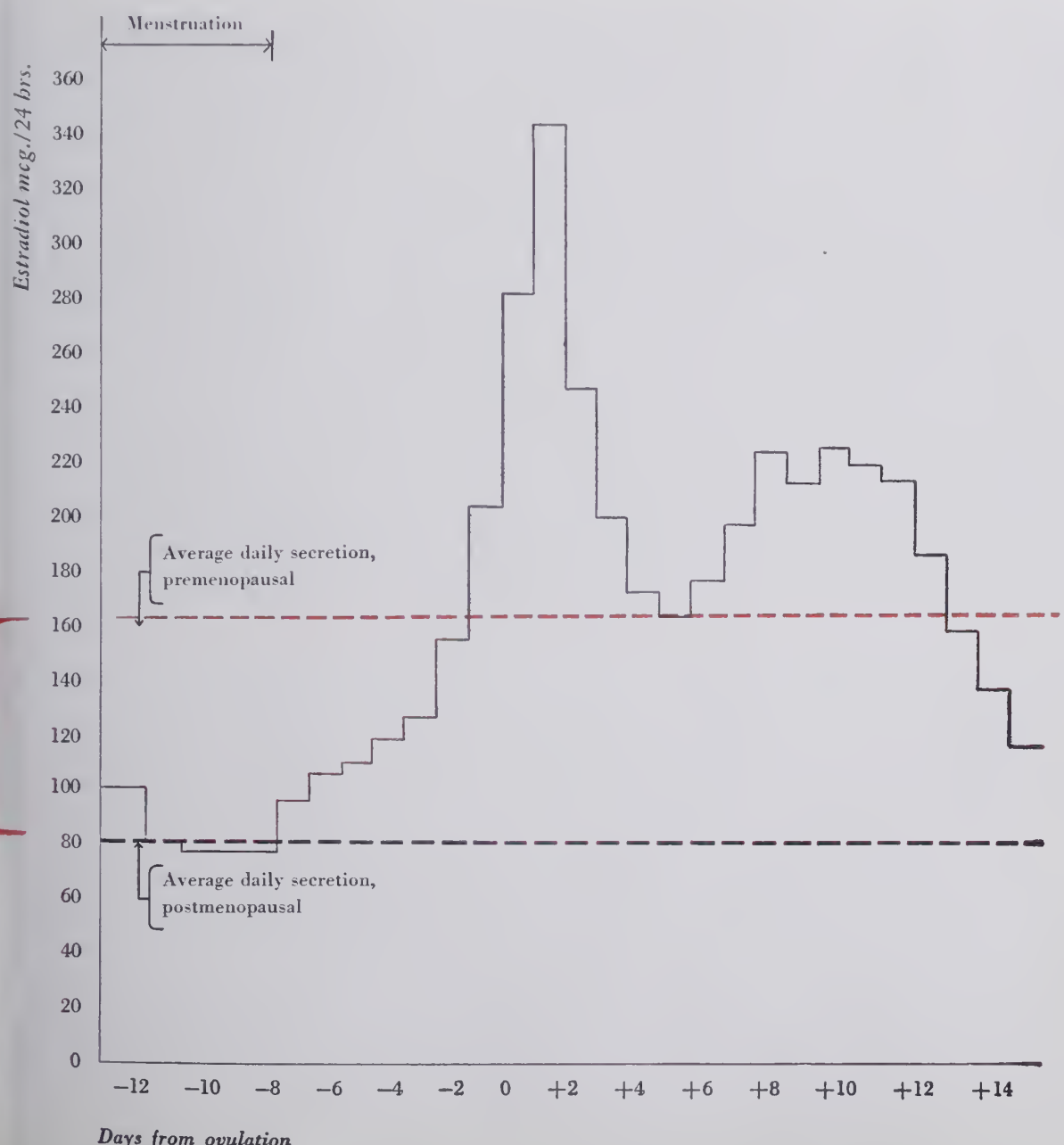
Each Halodrin tablet also contains 1 mg. of Upjohn-developed Halotestin* (fluoxymesterone)—the most potent oral androgen known. The primary purpose is to "buffer" the ethinyl estradiol just enough to prevent breakthrough bleeding, which is obviously undesirable in the menopause. It also exerts other beneficial hormonal effects, one of which, in common with ethinyl estradiol, is a powerful anabolic action so desirable in patients of advanced years.

Upjohn

*TRADEMARK, REG. U.S. PAT. OFF.

COPYRIGHT 1958, THE UPJOHN COMPANY

Endogenous estrogen secretion (mcg. 24 hours)
(calculated from average 24-hour urinary excretion of estradiol, estrone, and estriol)



VARIDASE* BUCCAL TABLETS

Streptokinase-Streptodornase Lederle

Controls Inflammation and Swelling...Relieves Pain... Promotes Healing Through Enchancement of Fibrinolysis at the Site of Trauma or Infection.

References: 1. Innerfield, I.; Shub, H., and Boyd, L. J.: New England J. Med. 258: 1069 (May 24) 1958. 2. Miller, J. M.; Godfrey, G. C.; Ginsberg, M. J., and Papastrat, C. J.: J. A. M. A. 166:478 (Feb. 1) 1958. 3. Davidson, E; Prigot, A., and Maynard, A. de L.: Harlem Hosp. Bull. II: 1 (June) 1958 *Reg. U. S. Pat. Off.



TO ACCELERATE THE RECOVERY PROCESS

Established Efficacy and Safety: For five years VARIDASE, in parenteral form, has been used with success in many thousands of cases. Its ability to control inflammation, swelling and associated pain, aid penetration of antibiotics, and hasten healing has been demonstrated in such conditions as severe trauma, infected ulcerations, and following extensive surgery.

Now, Parenteral Effectiveness . . . Simple Buccal Route: New VARIDASE Buccal Tablets give your patients the benefits of systemic VARIDASE therapy without the inconvenience of repeated injections. Absorbed through the buccal mucosa in fully effective amounts, VARIDASE Buccal Tablets may be used as practical adjunctive therapy in your practice within these broad classifications:

Inflammation and edema associated with: trauma and infection • cellulitis • abscess • hematoma • thrombophlebitis • sinusitis • uveitis • chronic bronchitis • leg ulcer • chronic bronchiectasis.

Each VARIDASE Buccal Tablet contains 10,000 Units Streptokinase and 2,500 Units Streptodornase.

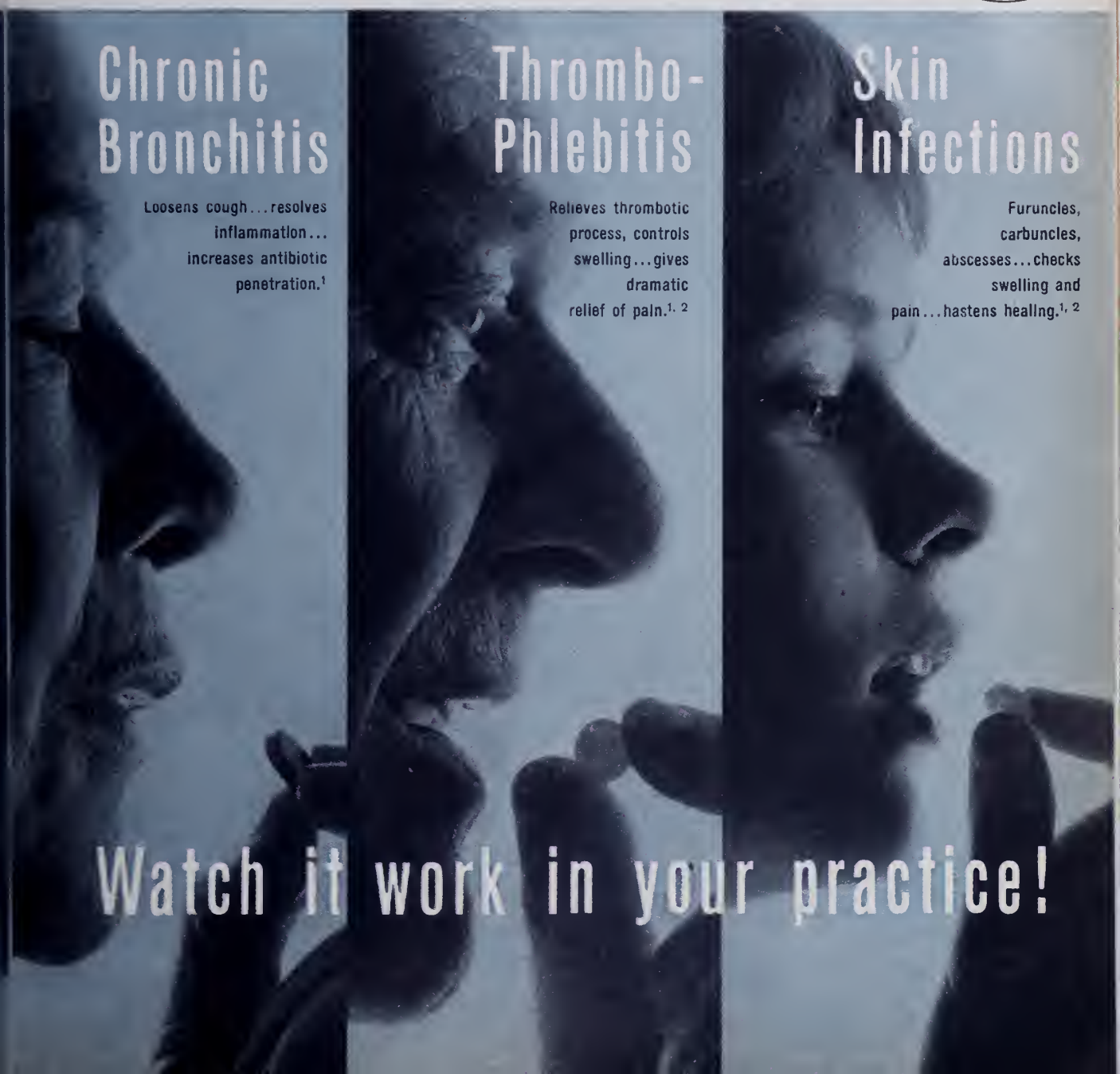
Administration: VARIDASE Buccal Tablets should be retained in the buccal pouch until dissolved. For maximum absorption patient should delay swallowing saliva.

Dosage: One tablet four times daily for a minimum of three days. When infection is present, VARIDASE Buccal Tablets should be given in conjunction with an antibiotic such as ACHROMYCIN* V Tetracycline and Citric Acid.

Available in bottles of 24.

*Reg. U. S. Pat. Off.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York



LETTERS
TO THE MEDICAL DIRECTOR

Dear Doctor:

Rauvera* was used on five patients with essen-sential hypertension varying from moderate to severe. The highest blood pressure was 220/130 and the lowest 180/105.

All patients have shown a consistent response to the drug and the continuation therapy has effected a good control so far . . . approximately two to three months. In four patients systolic blood pressure was reduced from 20 to 50 mm. Hg and the diastolic from 10 to 15 mm. One patient, who had a pressure of 220/130 has had a phenomenal response, and I brought the systolic down to 165 and the diastolic to 95.

M. D., Wisconsin

Dear Doctor:

Rauvera has produced satisfactory reductions of blood pressure in every hypertensive case in which I have used it.

M. D., Colorado

Dear Doctor:

Rauvera tabs are my choice for hypertension over 170 . . . they give me the best results.

M. D., Texas

Comment: *It is interesting to note that no adverse side effects were reported in connection with Rauvera's effective antihypertensive action.*

*Rauvera contains 1 mg. alseroxylon (purified Rauwolfia serpentina alkaloid), 3 mg. alkavervir (Veratrum viride fraction) in each scored tablet.

SMITH-DORSEY • Lincoln, Nebraska



THE EARLE JOHNSON SANATORIUM

"In the Mountains of Meridian"

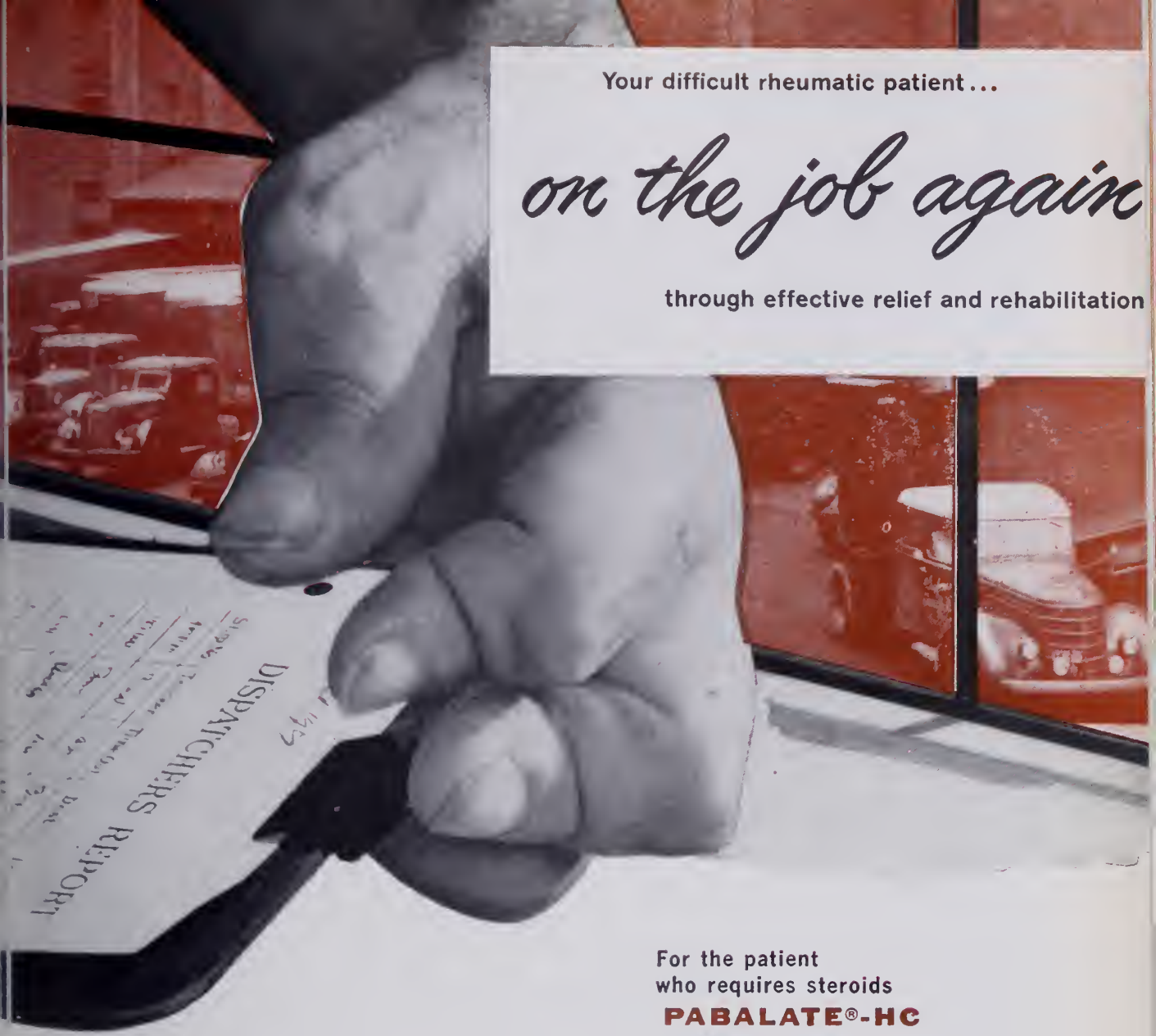
RAYMOND FARNHAM WAFER, M. D.
Psychiatrist-in-Chief

Diplomate in Psychiatry and Neurology of the American Board of Psychiatry and Neurology.

Specialized treatments in mental disorders and alcoholic and drug addictions, including:

Electro-convulsive therapy
Mid-brain stimulation
Deep insulin therapy
Psychotherapy
Geriatrics

Write P. O. Box 106
or
Telephone 3-3369
MERIDIAN, MISSISSIPPI



Your difficult rheumatic patient...

on the job again

through effective relief and rehabilitation

For the patient who does not require steroids

PABALATE®

Reciprocally acting nonsteroid antirheumatics . . . more effective than salicylate alone.

In each enteric-coated tablet:

Sodium salicylate U.S.P.....0.3 Gm. (5 gr.)
Sodium para-aminobenzoate .....0.3 Gm. (5 gr.)
Ascorbic acid .....50.0 mg.

or for the patient who should avoid sodium

PABALATE®-Sodium Free

Pabalate, with sodium salts replaced by potassium salts.

In each enteric-coated tablet:

Potassium salicylate .....0.3 Gm. (5 gr.)
Potassium para-aminobenzoate .....0.3 Gm. (5 gr.)
Ascorbic acid .....50.0 mg.

For the patient who requires steroids

PABALATE®-HC

(PABALATE WITH HYDROCORTISONE)

Comprehensive synergistic combination of steroid and nonsteroid antirheumatics... full hormone effects on low hormone dosage . . . satisfactory remission of rheumatic symptoms in 85% of patients tested.

In each enteric-coated tablet:

Hydrocortisone (alcohol) ..... 2.5 mg.
Potassium salicylate ..... 0.3 Gm.
Potassium para-aminobenzoate.. 0.3 Gm.
Ascorbic acid .....50.0 mg.

PABALATE® Robins PABALATE®-HC

For sterold or non-steroid therapy: SAFE DEPENDABLE ECONOMICAL

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA • Ethical Pharmaceuticals of Merit since 1878



Bed of Digitalis purpurea
with Campanula (Canterbury Bells) in foreground

Not far from here are manufactured
from the powdered leaf
Pil. Digitalis (Davies, Rose)
0.1 Gram (1½ grains) or 1 U.S.P. Digitalis Unit.
They are physiologically standardized,
with an expiration date on each package.
Being Digitalis in its completeness,
this preparation comprises the
entire therapeutic value of the drug.
It provides the physician with a safe and effective
means of digitalizing the cardiac patient
and of maintaining the necessary saturation.
Security lies in prescribing the
"original bottle of 35 pills, Davies, Rose."

Clinical samples and literature sent to physicians on request

Davies, Rose & Co., Ltd. Boston 18, Mass.

D 27

Until the discovery of DECADRON* by MERCK SHARP & DOHME, when your diabetic patients were also in need of corticosteroid treatment, you were often faced with a difficult therapeutic dilemma. Diabetes mellitus was a recognized contraindication to the use of corticosteroids, since they not only aggravated the existing diabetic symptoms, but often precipitated latent diabetes.

NOW EVEN many diabetic patients may have THE FULL BENEFITS OF CORTICOSTEROID THERAPY

DECADRON—the new and most potent of all anti-inflammatory corticosteroids—is remarkable for its **virtual absence of diabetogenic effect** in therapeutic doses.



Decadron*

DEXAMETHASONE

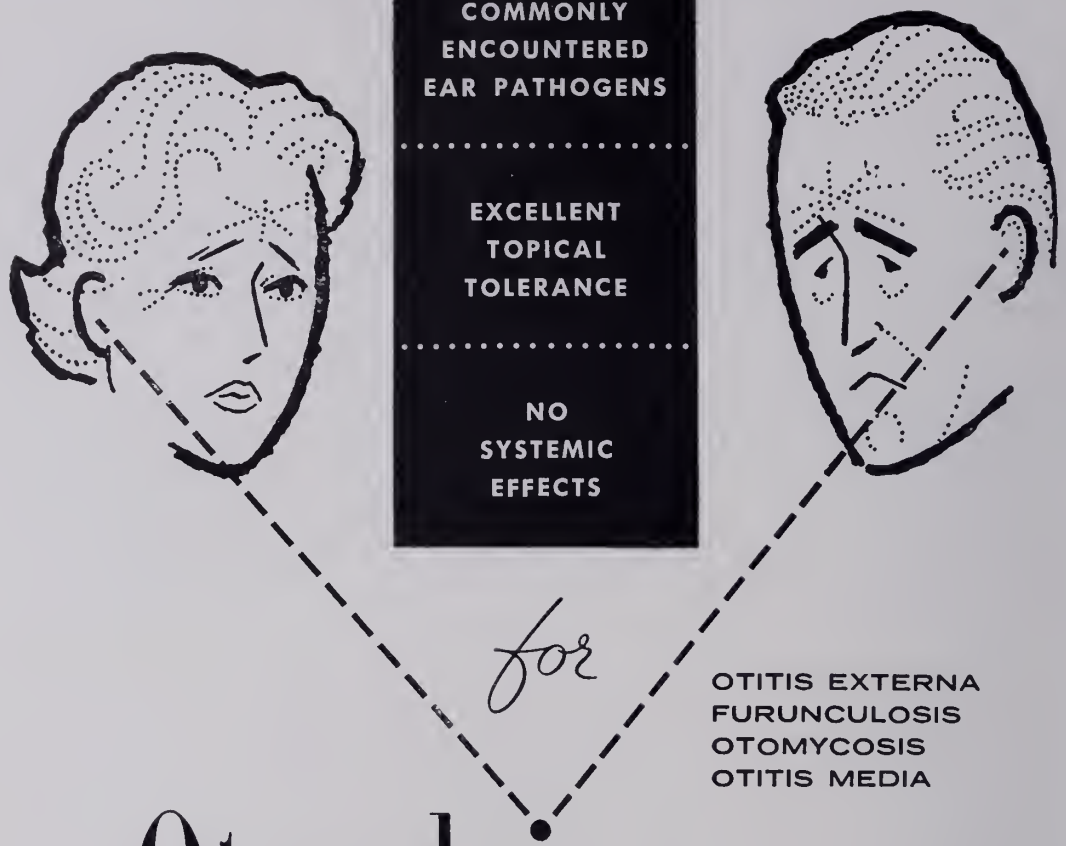
to treat more patients more effectively

In clinical trials with some 1,500 patients glycosuria was noted in only two, transitory glycosuria in another two, and flattening of the glucose tolerance curve in one. There were no instances of aggravation of existing diabetes, no increase in insulin requirements. Patients whose diabetes was severely aggravated on prednisolone showed good tolerance when transferred to DECADRON.

MORE patients can be treated with DECADRON than with other corticosteroids, because in addition to being practically free of diabetogenic activity, therapy with DECADRON is also practically free of sodium retention, potassium depletion, hypertension, edema and psychic disturbances. Cushingoid effects are fewer and milder. DECADRON has not caused any new or "peculiar" reactions, and has produced neither euphoria nor depression, but helps restore a "natural" sense of well-being.

*DECADRON is a trademark of Merck & Co., Inc., ©1958 Merck & Co., Inc.

MSD **MERCK SHARP & DOHME**
DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.



Otamylon® and Otamylon® with Hydrocortisone

EAR DROPS

BACTERICIDAL
FUNGICIDAL
ANALGESIC
HYGROSCOPIC

Manner of Use:

After gently cleansing and drying the ear canal, Otamylon (2 or 3 drops or moistened wick) is applied three or four times daily.

Supplied:

Otamylon—bottles (15 cc.) with dropper. Otamylon c̄ Hydrocortisone—15 cc. combination package to be mixed prior to dispensing.

Otamylon is a clear, odorless, sterile, viscid liquid containing:

Sulfamylon® HCl 5%
Benzocaine 5%
Anhydrous glycol q.s. 100

Otamylon with Hydrocortisone:
Same formula with 0.02% hydrocortisone.

Winthrop LABORATORIES
New York 18, N.Y.

Otamylon and Sulfamylon (brand of mafenide), trademarks reg. U. S. Pat. Off.

Proven

in over three years of clinical use
in over 600 clinical studies

Specific

FOR RELIEF OF ANXIETY
AND MUSCLE TENSION

Selective

Does not interfere with autonomic function
Does not impair mental efficiency,
motor control, or normal behavior
Has not produced hypotension,
agranulocytosis or jaundice

MEPROBAMATE (WALLACE)

Miltown®

Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets.

WALLACE LABORATORIES, New Brunswick, N. J.

CM-8043

in peptic ulcer

REFRACTORY CASES RESPOND TO

NEW

DARICON* *tablets*

OXYPHENCYCLIMINE HYDROCHLORIDE

POTENT ANTICHOLINERGIC ACTION

curbs secretion when excessive
normalizes motility when overactive

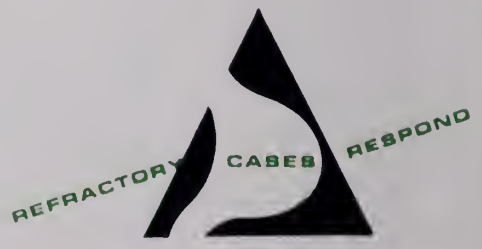
Activity appears to be restricted to the desired site of action.
Predictable therapeutic response in refractory cases.

Potency and Prolonged Duration of Action
10 mg. b.i.d. Average Dose · Supplied as:
10 mg. white, scored tablets

References: 1. Finkelstein, Murray: Journal of Pharmacology and Experimental Therapeutics, in press. 2. Winkelstein, Asher: Paper in preparation.
*Trademark

Pfizer *Science for the world's well-being*

PFIZER LABORATORIES
Division, Chas. Pfizer & Co., Inc.,
Brooklyn 6, N. Y.



A workhorse "mycin" for common infections



respiratory infections

prompt, high blood levels

consistently reliable and reproducible blood levels

minimal adverse reactions

With well-tolerated CYCLAMYCIN, you will find it possible to control many common infections rapidly and to do so with remarkable freedom from untoward reactions. CYCLAMYCIN is indicated in numerous bacterial invasions of the respiratory system—lobar pneumonia, bronchopneumonia, tracheitis, bronchitis, and other acute infections. It has been proved effective against a wide range of organisms, such as pneumococci, H. influenzae, streptococci, and many strains of staphylococci, including some resistant to other "mycins." Supplied as Capsules, 125 and 250 mg., vials of 36; Oral Suspension, 125 mg. per 5-cc. teaspoonful, bottles of 2 fl. oz.

new

CYCLAMYCIN®

Triocetyloleondomycin, Wyeth

PHYSICIANS' COUNCIL FOR BETTER INFORMATION ON CHILD HEALTH

Conforms to Code for Advertising

Wyeth®

Philadelphia 1, Pa.



Erythrocin® stearate

(Erythromycin Stearate, Abbott)

an uncommon antibiotic for common infections

after millions of prescriptions ...an unparalleled safety record

provides fast, high blood and tissue concentrations

Because ERYTHROCIN Stearate is rapidly absorbed, patients get therapeutic blood and tissue levels within 30 minutes. High, peak levels occur between one and two hours—and effective concentrations are maintained for at least six hours. Always at hand, then, against more critical infections is ERYTHROCIN-I.M.—the only intramuscular form of erythromycin available.

backed by years of clinical effectiveness

Actually, every prescription you write for ERYTHROCIN is backed by more than six years of clinical effectiveness against coccal infections. And, with the problem of antibiotic resistance becoming more important daily, the value of ERYTHROCIN as a day-to-day anticoccal agent is dramatically underlined.

supported by an unparalleled safety record

During all the years ERYTHROCIN has been prescribed, serious reactions have been practically nonexistent. Unlike penicillin, allergy is no problem. And, in contrast to "broad-spectrum" action, the normal flora of the intestinal tract is virtually unaltered with ERYTHROCIN therapy.

offers bactericidal activity

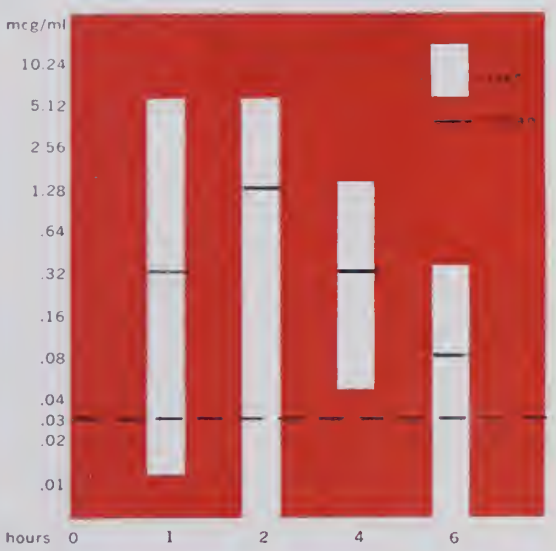
Unlike broad-spectrum antibiotics, ERYTHROCIN is classed as a bactericidal antibiotic. It offers lethal action against common coccic invaders—resulting in prompt clinical response.

provides convenient dosage forms

Usual adult dose is 250 mg. four times daily. Children's dosage is reduced in proportion to body weight. ERYTHROCIN comes in Filmtabs® (100 and 250 mg.), bottles of 25 and 100. Also in oral suspension and for intramuscular use. Won't you prescribe ERYTHROCIN doctor? Abbott

if you're concerned with blood levels...

Dotted line shows actual inhibitory concentrations against most organisms. Note the high ranges and medians of ERYTHROCIN Stearate at one, two, four and six hours. Data represents three studies with adults. Each was given one 250-mg. Filmtab.



And where you need a consistent uniform response that only an injectable form can provide, remember—**ERYTHROCIN-I.M.**(Erythromycin Ethyl Succinate, Abbott) and **ERYTHROCIN LACTOBIONATE.**

®Filmtab—Film-sealed tablets, Abbott; pat. applied for.



new 3-way build-up for the under par child...

Improve appetite and energy
with ample amounts of vitamins—B_1, B_6, B_{12}.

strengthen bodies with needed protein
Through the action of l-Lysine, cereal and other low-grade protein foods are up-graded to maximum growth potential.

discourage nutritional anemia
with iron in the well-tolerated form of ferric pyrophosphate...plus sorbitol for enhanced absorption of both iron and B_{12}.

new

INCREMIN*

Lysine-Vitamins

WITH IRON SYRUP

delicious cherry flavor— no unpleasant aftertaste

Average dosage is 1 teaspoonful daily. Available in bottles of 4 and 16 fl. oz.

Each teaspoonful (5 cc.) contains:

l-Lysine HCl	300 mg.
Vitamin B_{12} Crystalline	25 mcgm.
Thiamine HCl (B_1)	10 mg.
Pyridoxine HCl (B_6)	5 mg.
Ferric Pyrophosphate (Soluble)	250 mg.
Iron (as Ferric Pyrophosphate)	30 mg.
Sorbitol	3.5 Gm.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York Lederle

*Reg. U. S. Pat. Off.



HER concepts of cleansing have changed...

Today she would prefer

TRICHOTINE®

for her most personal cleansing

THE FESLER COMPANY, INC. • 375 Fairfield Ave., Stamford, Conn.

IN OFFICE SURGERY†

ELECTIVE AND TRAUMATIC

use

XYLOCAINE® (brand of lidocaine*) **HCl SOLUTION**

as a local or topical anesthetic



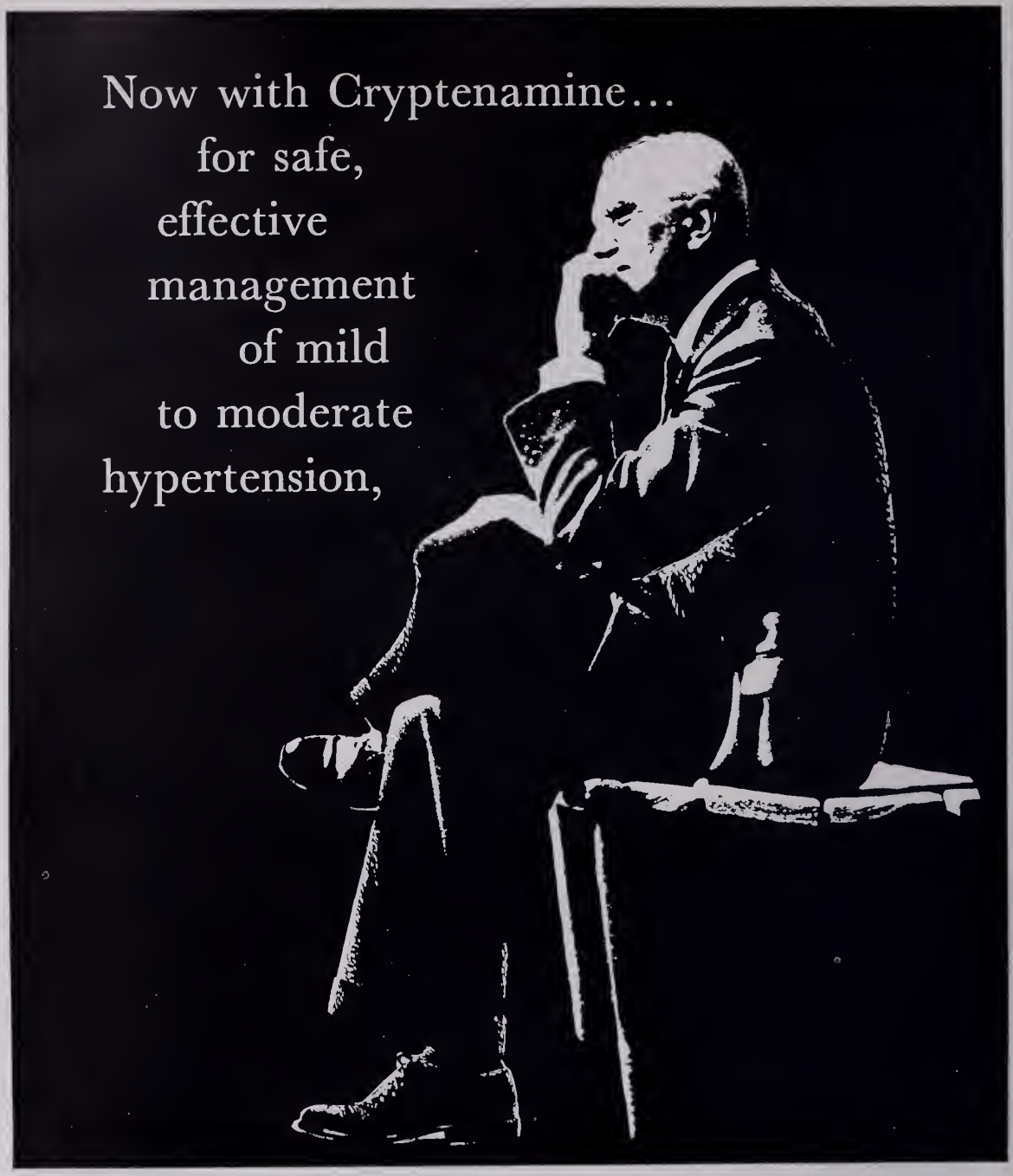
Xylocaine is routinely fast, profound and well tolerated. Its extended duration insures greater postoperative comfort for the patient. Its potency and diffusibility render reinjection virtually unnecessary. It may be infiltrated through cut surfaces permitting pain-free exploration and longer suturing time.

ASTRA PHARMACEUTICAL PRODUCTS, INC., WORCESTER 6, MASSACHUSETTS, U. S. A.

† warts; moles; sebaceous cysts; benign tumors; wounds; lacerations; biopsies; tying superficial varicose veins; minor rectal surgery; simple fractures; compound digital injuries (not involving tendons, nerves or bones)

SEE PDR

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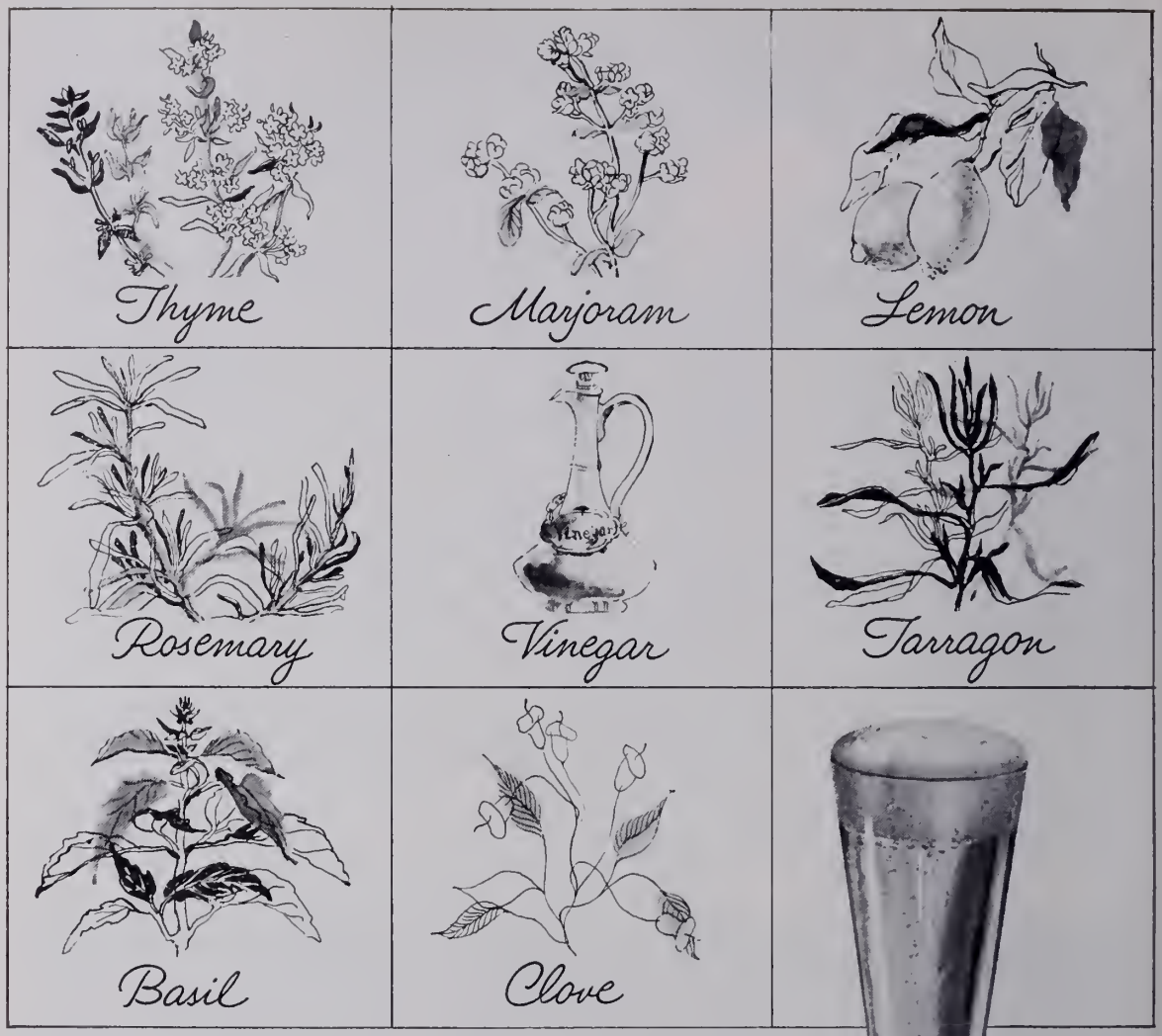
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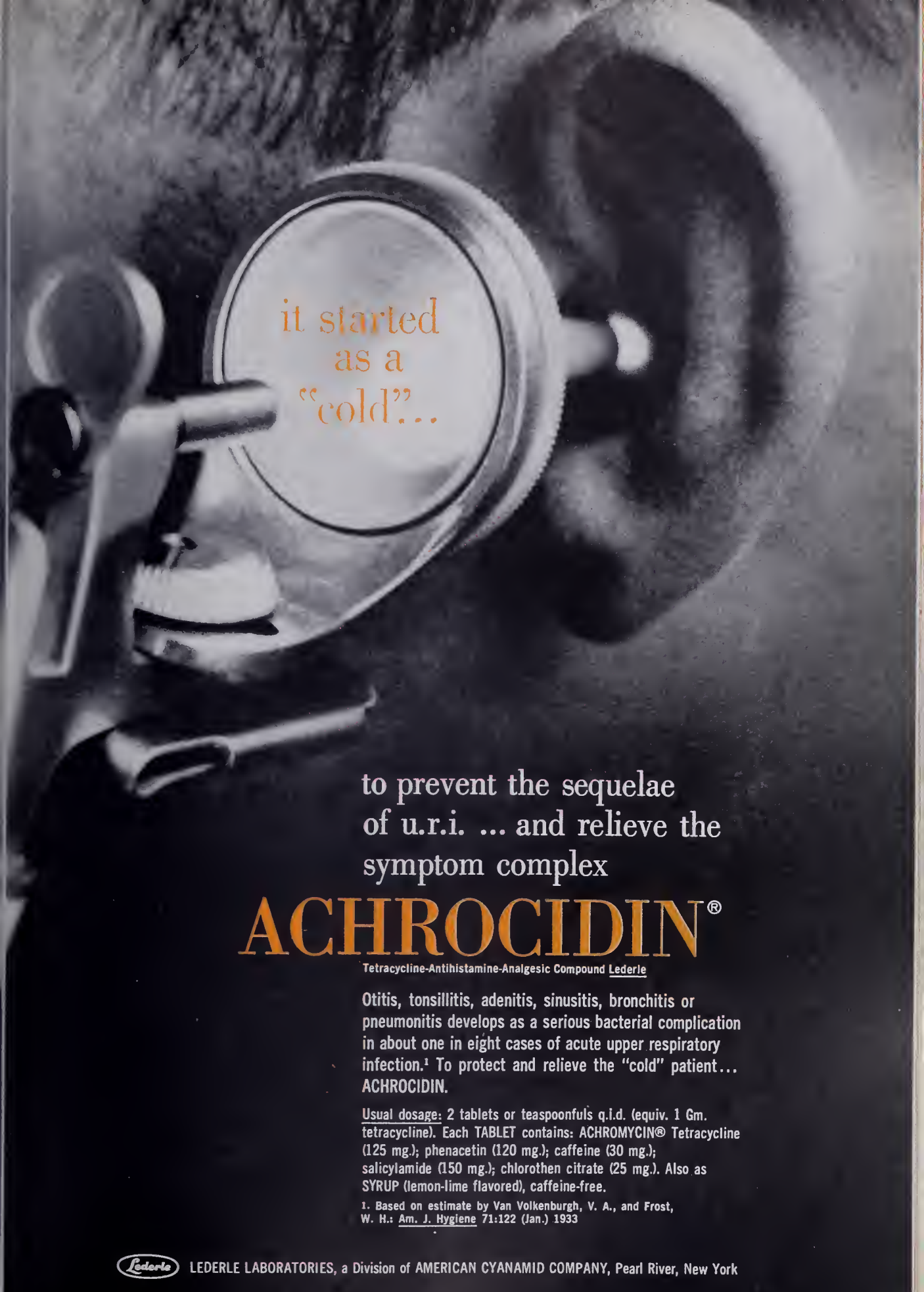
Thyme, marjoram and pepper add zest to hamburger. Chicken's delicious with lemon, rosemary and sweet butter to baste. He can try sweet butter with nutmeg on green beans, savory on limas, tarragon with carrots, basil with tomatoes. Onions boiled with whole clove and thyme delight the taste of an epicure!

With these flavor tricks to add zest to his meals—and a glass of beer* now and then, at your discretion, your patient has a diet that's both good tasting and good for him.

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1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933

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SPONTIN IN SERIOUS

A Special Report from Abbott
to the Medical Profession
on a Year's Clinical Experience
with SPONTIN®
(Ristocetin, Abbott)

In a Spanish province, a patient lay dying of endocarditis. A short wave radio appeal for SPONTIN was intercepted by a Baltimore physician. The antibiotic was immediately flown to this faraway land, and 10 days later—the patient had recovered.

In Chicago, a moribund patient had been administered 18 combinations of 10 different antibiotics without success. Involved was a hospital-acquired staphylococcal pneumonia—plus complications. SPONTIN was substituted and the patient lived.

A five-week-old infant was critically ill with staphylococcal enteritis. Treatment failures included erythromycin and chloramphenicol. Three days of SPONTIN saved this life. The list is long and impressive and it grows daily.

Recently, a study[1] was made of serious and resistant staphylococcal infections reported to Abbott Laboratories. Many of these cases had serious complicating diseases—many were moribund, or almost so, at the time SPONTIN was started. Yet, out of the 160 staphylococcal cases studied, 93 were reported cured and 38 improved after the administration of SPONTIN.

Out of the total of 251 patients with severe infections caused by gram-positive or mixed organisms, 149 were reported cured and 53 others improved. And the record for pediatric practice was every bit as good.

Additionally, SPONTIN continues to exhibit exceptional bactericidal activity against coccal infections[2]. And, according to another study, SPONTIN provides successful short-term therapy in endocarditis[3].

Only last October, at the Antibiotics Symposium in Washington, D. C., a panel of six leading antibiotic experts placed SPONTIN at the top of all other commercially-available antibiotics for treating serious staphylococcal infections. Also, six papers—all dealing with the effectiveness of ristocetin (SPONTIN®) in treating staphylococcal infections—were presented at the Symposium.

One of the most encouraging aspects of the year's literature on SPONTIN is the increasing testimony to its safety. As the months have passed and cases have accumulated by the hundreds, it has become apparent that careful attention to dosage recommendations has practically eliminated toxicity and side effects as serious obstacles to therapy. Also, recent improvements have been made in the manufacture of SPONTIN; the drug is now made from pure crystals.

A recent report[4] in the Journal of the American Medical Association concluded, "It is our opinion that, if proper precautions are observed, ristocetin is a [well tolerated] and potent agent to employ in the treatment of staphylococcal infections." And in another study, after successfully treating 28 patients with a variety of staphylococcal infections, the authors reported[5], "No serious complications were noted."

Few more dramatic records have been written in such a short space of time. SPONTIN has proved itself to be a good answer, perhaps the best answer at present, to the resistant staphylococcal problem—and of real value in other serious coccal infections. It may well be your answer when you're confronted with a serious infection.

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STAPHYLOCOCCAL INFECTIONS

Excerpts from Reports Read at the Antibiotics Symposium

Spontin In Treating Severe Respiratory Infections —"In 13 of 20 patients the results were excellent, with clinical response being evident within one to four days after institution of therapy. In three additional patients, there was some degree of improvement in pneumonic processes superimposed on tuberculosis in two cases and on pulmonary neoplasm in one. In all other cases, serious antecedent pathology undoubtedly influenced the negative or equivocal response to ristocetin therapy.[6]"

Spontin In Treating Staphylococcal Infections—After successfully treating 28 patients, the authors wrote, "Ristocetin or Spontin has proved to be bactericidal and bacteriostatic, particularly for the *Staphylococcus aureus*, which is often resistant to many other antibiotics.[5]"

Spontin In Treating Seven Difficult Cases – "Ristocetin has produced excellent results in eradicating, mitigating or preventing infection in seven selected difficult cases. Six of the seven cases involved *Staphylococcus aureus* which did not respond to chemotherapy with other antibiotics.[7]"

Spontin Blood Levels In Children – "Ristocetin was administered as a single intravenous injection of 12.5 milligrams per kilogram. This resulted in serum levels ranging from 1.3 to 10.6 mcg. after two hours with a gradual fall to a level of 0.7 mcg. per cubic centimeter or less after 12 hours.[8]"

Spontin In Treating Staphylococcal Pneumonia —"Ristocetin was used in the treatment of 24 patients with staphylococcal pneumonia, 17 of whom had failed to respond to previously administered antibiotics. Complete clearing of pneumonitis was obtained in 16 patients and significant improvement occurred in two others. Two patients died of pneumonia; four others succumbed to other lethal diseases.[9]"

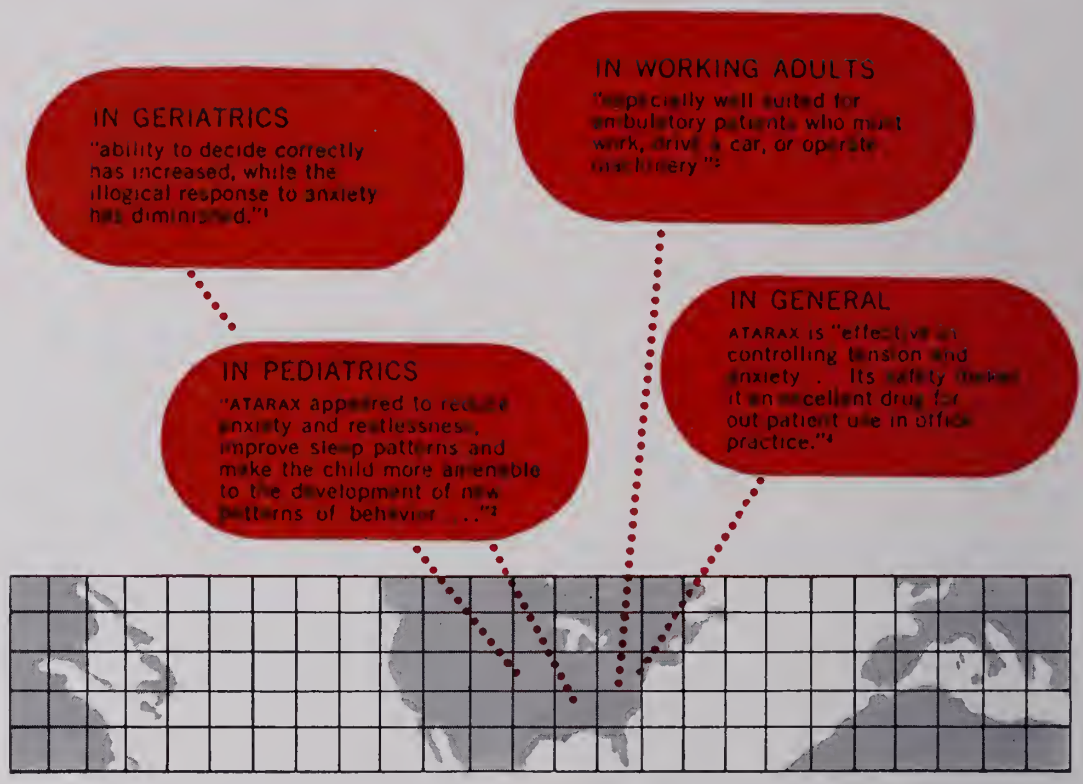
Spontin In Treating Children and Adults – "Ristocetin completely controlled severe staphylococcal infections in 11 adults and six children who received adequate therapy.[10]"

1. Totals represent published reports and personal communications to Abbott Laboratories.
2. Sixth Annual Symposium on Antibiotics, Washington, D. C., Oct. 15, 16, 17, 1958.
3. Romansky, M. J., and Holmes, R., Successful Short-Term Therapy of Enterococcal and Staphylococcal Endocarditis with Ristocetin–Seven Patients. Preliminary Report, Antibiotics Annual, 1957-58, p. 187.
4. J. A. M. A., 167:1584, July 26, 1958.
5. Bush, L. F., et al., The Use of Ristocetin (Spontin) in Staphylococcal Infections, In Press, Antibiotics Annual, 1958-59.
6. Billow, F. J., et al., Clinical Observations on Ristocetin–A Preliminary Report on its Efficacy and Toxicity in 20 Unselected Severe Respiratory Infections, In Press, Antibiotics Annual, 1958-59.
7. Miller, J. M., et al., Ristocetin in the Treatment of Seven Selected Difficult Cases, In Press, Antibiotics Annual, 1958-59.
8. Asay, L. D., et al., Ristocetin Serum Levels in Children, In Press, Antibiotics Annual, 1958-59.
9. Schumacher, L. R., et al., Experiences with Ristocetin in Staphylococcal Pneumonia: Observations in 23 Cases, In Press, Antibiotics Annual, 1958-59.
10. Terry, R. B., Ristocetin in Children and Adults, In Press, Antibiotics Annual, 1958-59.

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References: 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America 5:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. 57:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. 58:1684 (May 15) 1958. 5. Coirault, M., et al.: Presse méd. 64:2239 (Dec. 26) 1956. 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

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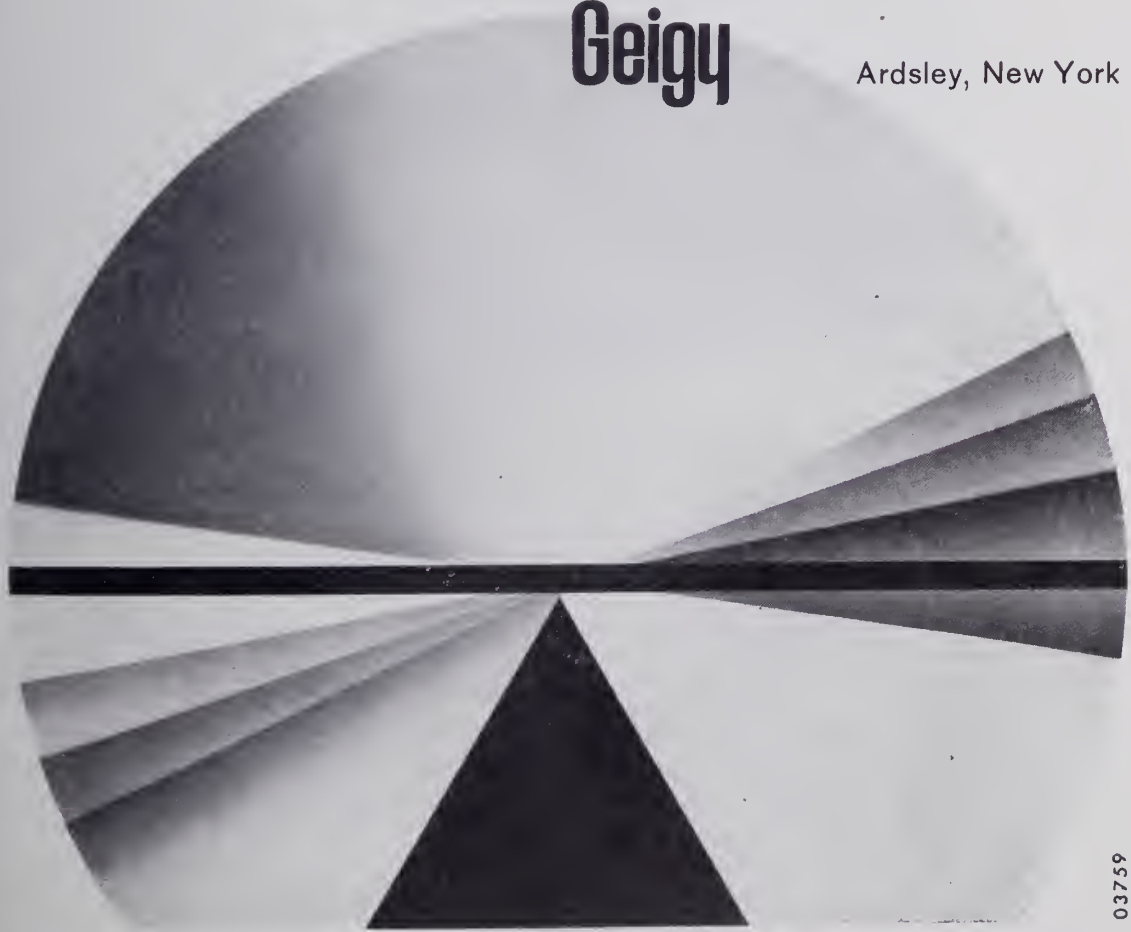
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Source: Vazquez, S. G.: J. Internat. Coll. Surgeons *28*:394, 1957.

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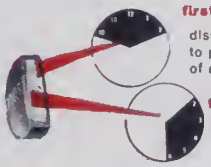
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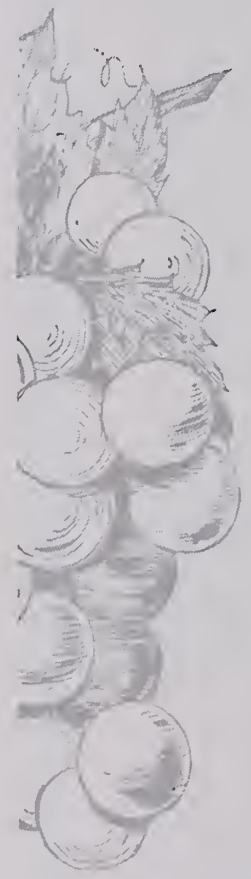
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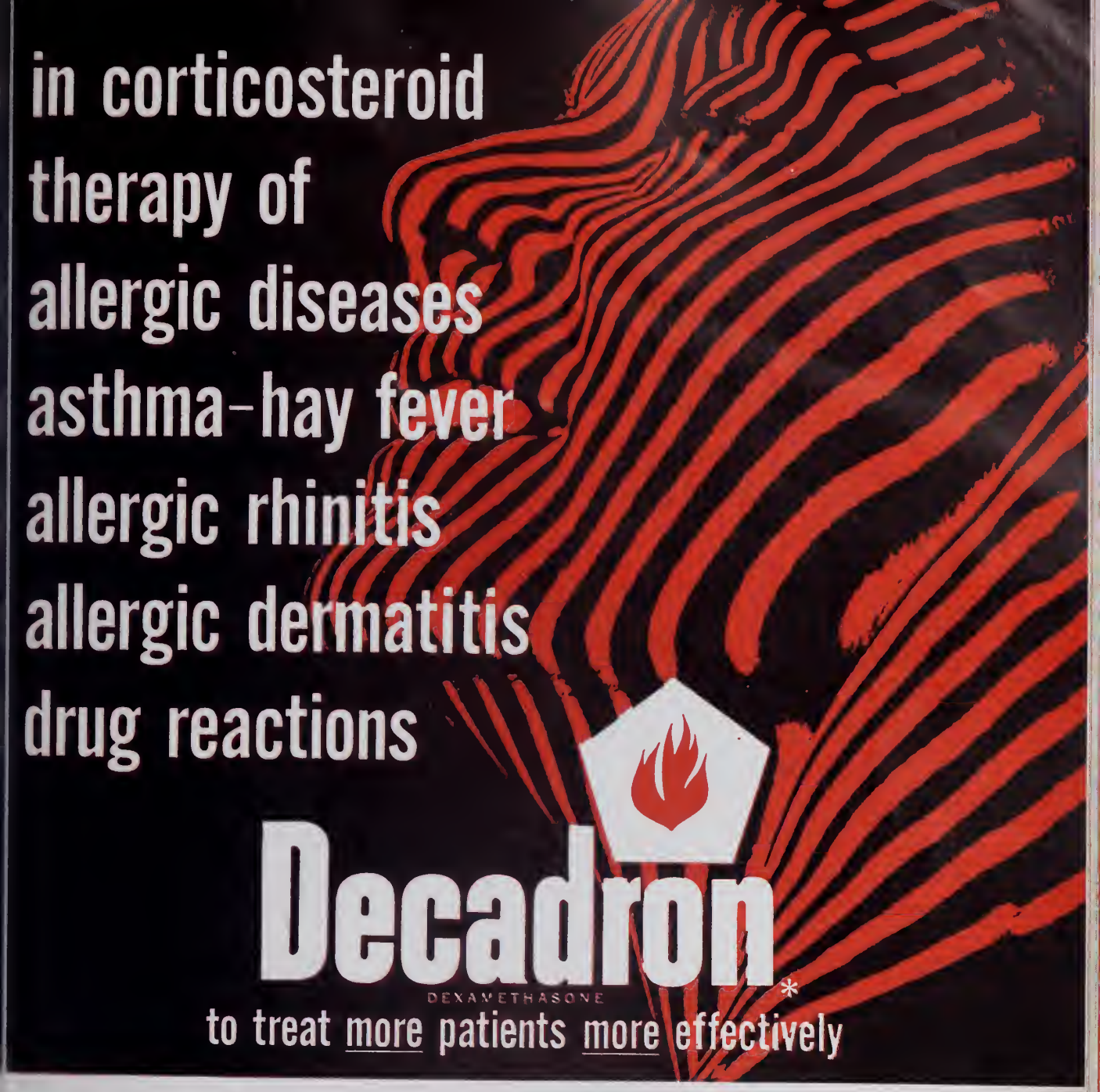
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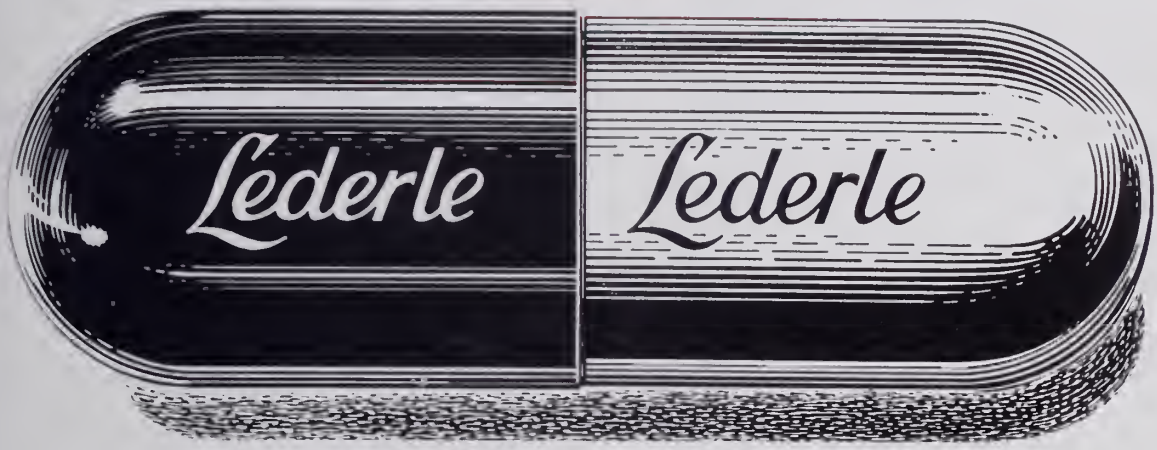


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INFLUENZA

The United States Public Health Service has recently informed us that three separate strains of influenza are causing severe outbreaks in Europe: Asian type has been isolated in England; Type A has been identified in the USSR; and Type B in Italy and the Netherlands. Therefore, the Surgeon General's recommendation that high risk groups, especially pregnant women, convalescents and the chronically ill, be immunized against influenza is certainly justifiable, and one in which the Louisiana State Board of Health concurs.

It is considered highly probable that the flu virus will be introduced into this country from one or more of these areas—possibly all three strains may gain a foothold. Logically, then, patients should be given the benefit of the multistrain influenza vaccine, in which the newer Asian strain is combined with strains A and B.

However, influenza immunization will not be available in the local health units.



Louisiana State Board of Health

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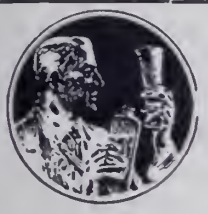
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References: 1. Hart, D.; Bagnall, A. W.; Bunim, J. J., and Polley, F. H.: Ninth International Congress on Rheumatic Diseases, Toronto, Ont. (June 25) 1957. 2. Report of Joint Committee, Medical Research Council & Nuffield Foundation, Treatment of Rheumatoid Arthritis, British Medical Journal (April 13) 1957. 3. Friend, D. G.: New England J. Med. 257:278 (Aug.) 1957.

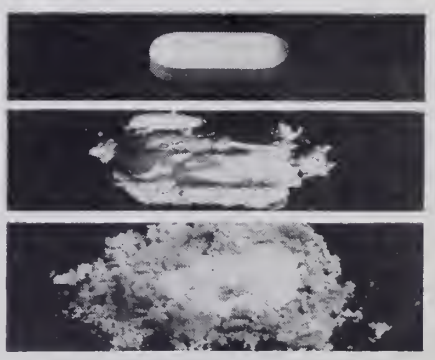
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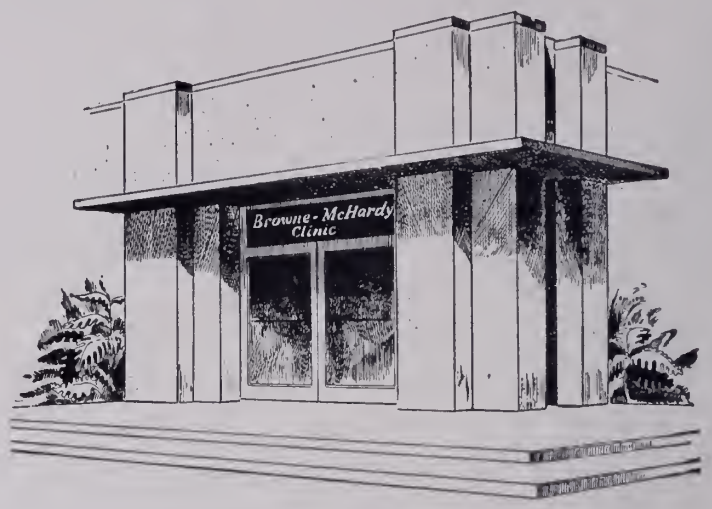
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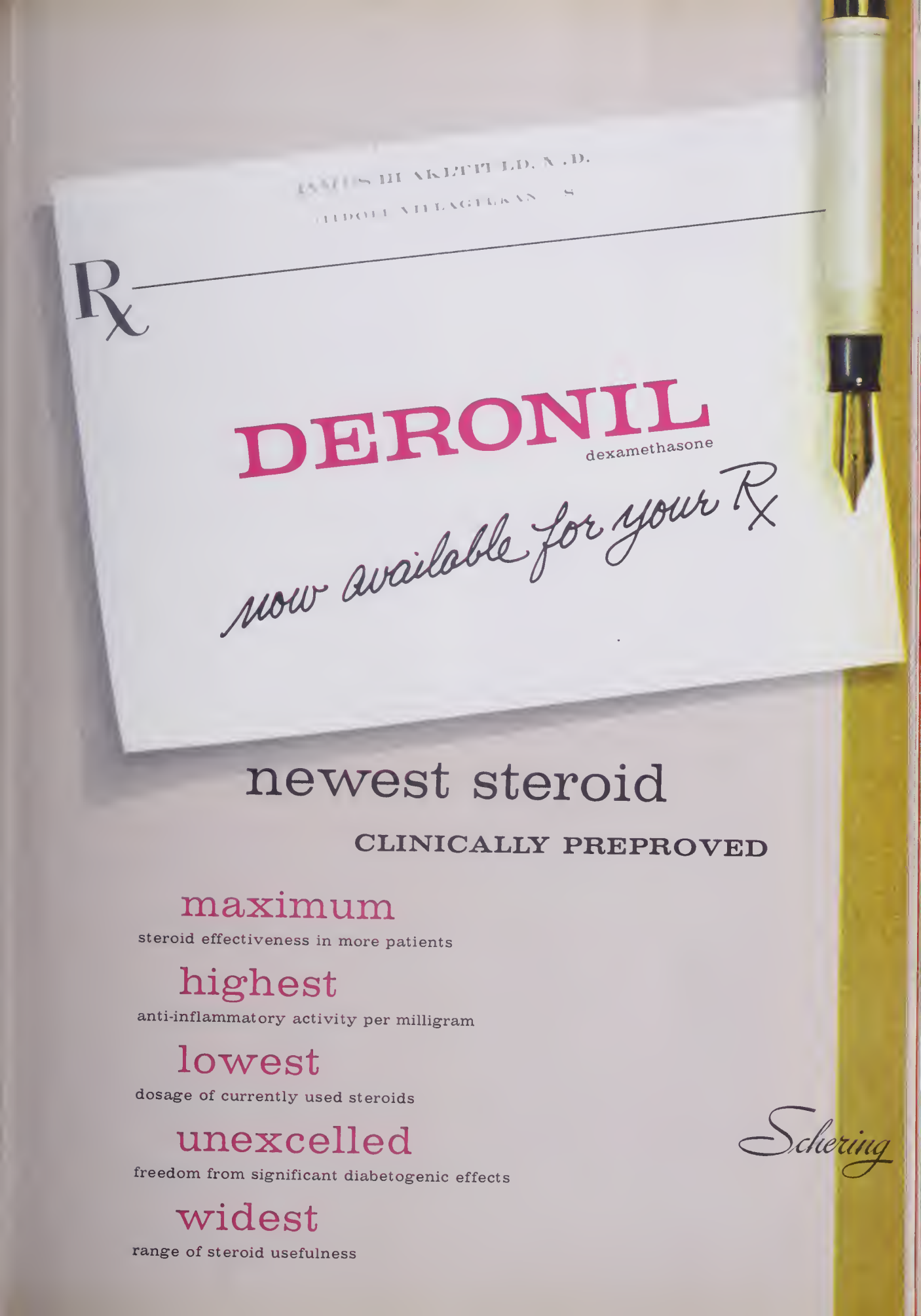
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Investigator or Study	No. of patients	Improvement		
		Very marked or marked	Moderate	Slight or inadequate
Boland, E. W., and Headley, N. E.[1]	11	4	5	2
Bunim, J. J., and others[3]	18	5	7	6
Series A[5]	15	4	9	2
Series B[5]	6	6	—	—
Series C[5]	3	3	—	—

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Investigator or Study	No. of patients	Results		
		Excellent	Fair to good	Poor
Series D[5]	24	10	9	5
Series E[5]	12	8	3	1
Series F[5]	20	13	4	3

clinically preproved in steroid-responsive diseases

IMPROVEMENT WITH DERONIL IN A WIDE VARIETY OF ALLERGIC AND INFLAMMATORY SKIN DISEASES[5]

Disease	No. of patients	Improved	Same	Worse
Seborrheic psoriasis	1	1		
Neurodermatitis	5	5		
Allergic dermatitis	5	5		
Psoriasis	5	2	1	2
Lupus erythematosus, chronic discoid	1		1	
Atopic dermatitis	3	3		
Acne rosacea	1		1	
Nummular eczema	2	2		
"id" reactions	2	2		
Contact dermatitis	2	2		
Pityriasis rosea, severe	1	1		
Urticaria, chronic	1	1		
Totals	29	24	3	2

THERAPY WITH DERONIL IN A VARIETY OF INFLAMMATORY EYE DISEASES[5]

Patient, age and sex	Diagnosis	Symptoms	Results with DERONIL	Side effects
A.B., 46, M.	Postoperative uveitis		Improved; treatment being continued	None reported*
A.E., 53, M.	Choroiditis	Severe choroidal involvement	Excellent; marked improvement	None*
B.F., 60, F.	Acute choroiditis	Marked visual loss and choroidal effect	Marked improvement; therapy being continued	None*
B.K., 29, F.	Chronic uveitis	Generalized involvement	No change despite dosage increase	None*
H.K., 28, M.	Acute iritis	Blurred vision	Excellent; recovered	None*
A.P., 52, M.	Uveitis and perivasculitis	Vision loss to 20/80	Marked improvement; vision 20/30; treatment continued	None*
A.S., 34, M.	Uveitis		Excellent; patient recovered	None*

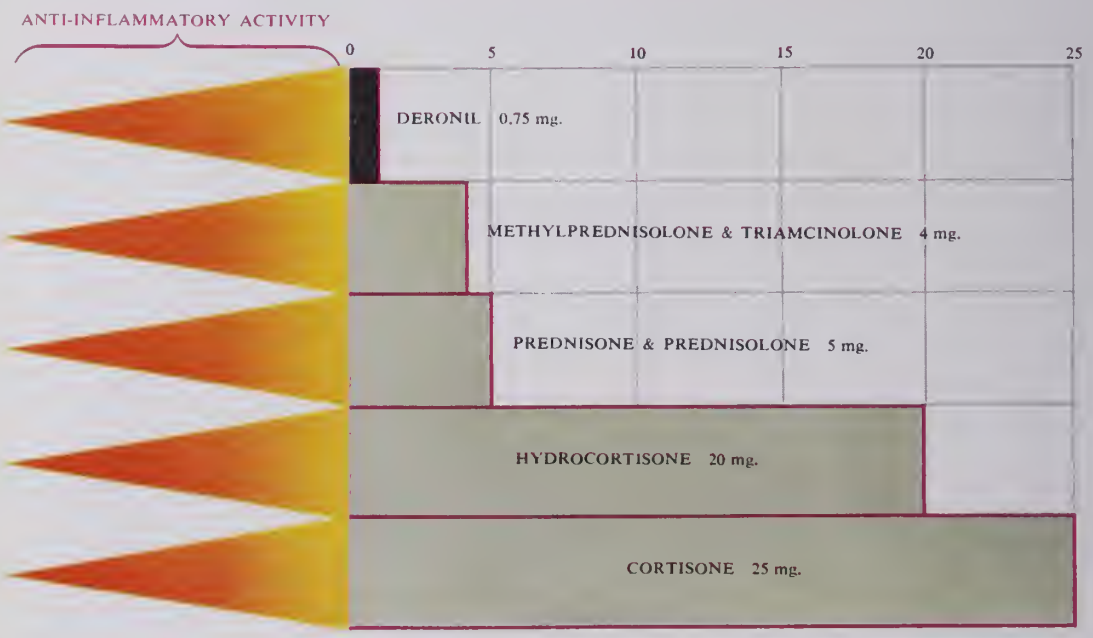
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Bibliography

(1) Boland, E. W., and Headley, N. E.: Preliminary clinical observations with a new series of synthetic corticosteroid compounds in patients with rheumatoid arthritis, Paper presented at Annual Meet., Am. Rheumat. Assn., San Francisco, June 21, 1958. (2) Boland, E. W.: California Med. *88*:417, 1958. (3) Bunim, J. J., and others: Arthritis and Rheumatism *1*:313, 1958. (4) Spies, T. D.; Stone, R. E., and Niedermeier, W.: South. M. J. *51*:1066, 1958. (5) Reports to Clinical Research Division, Schering Corporation.

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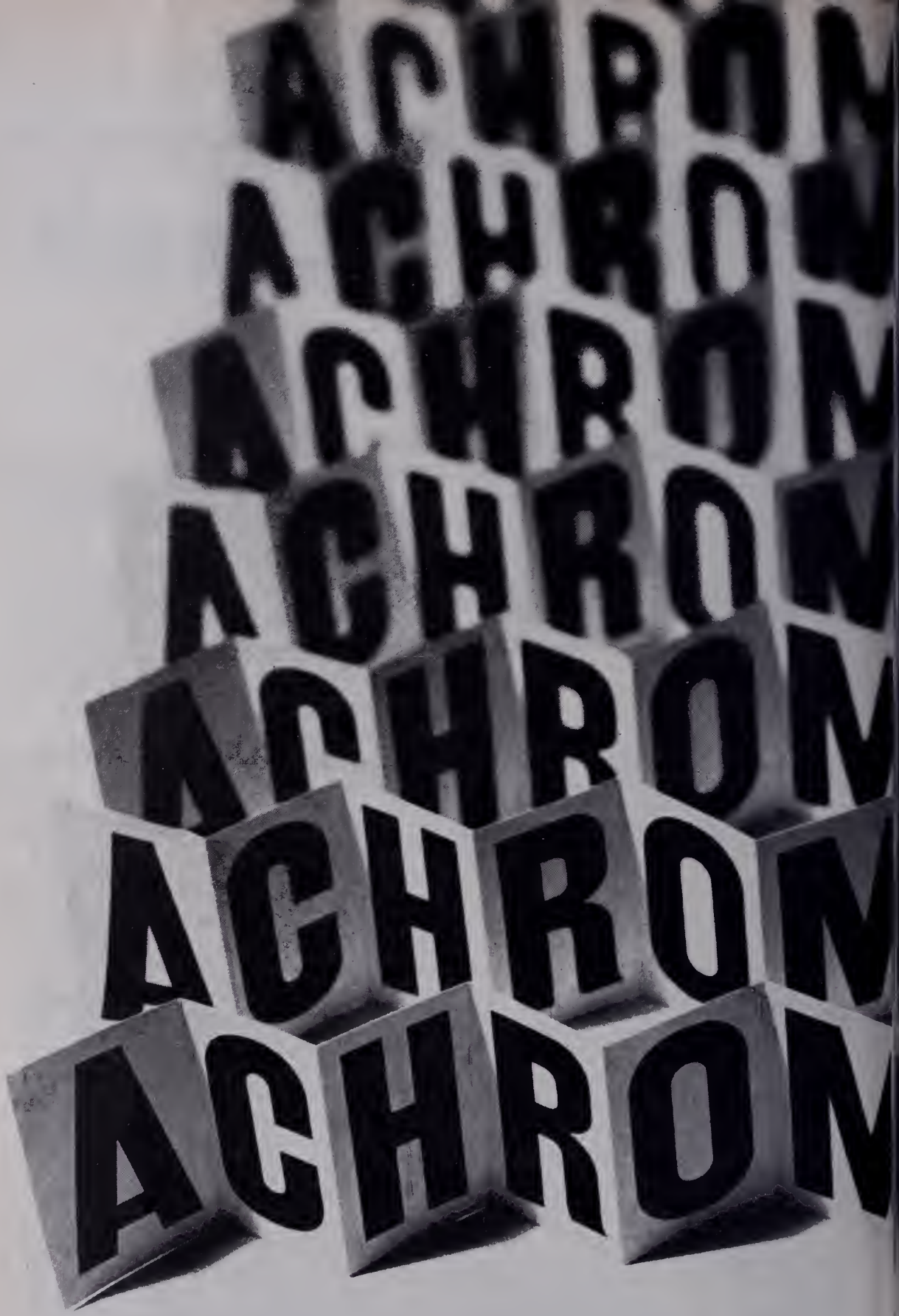
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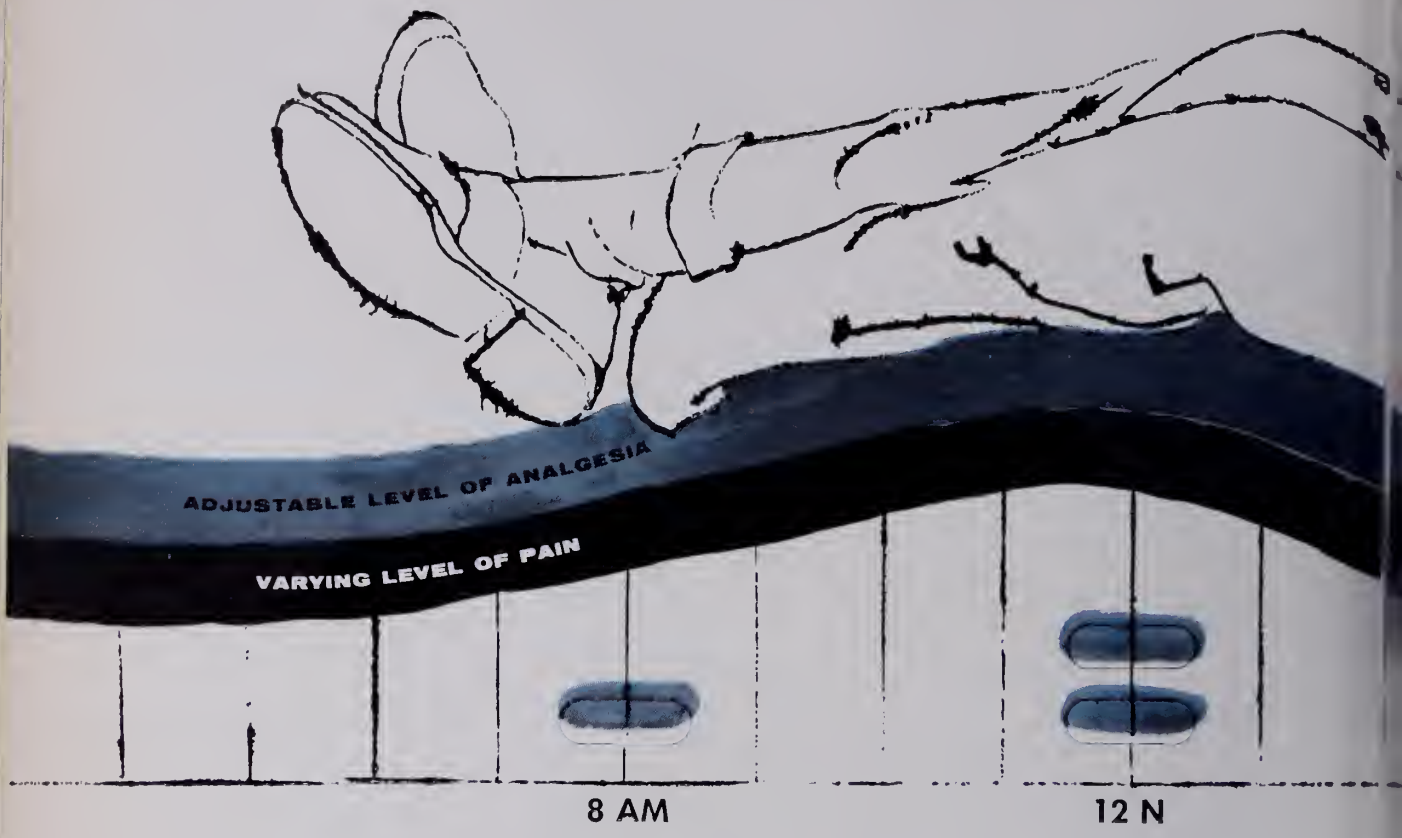



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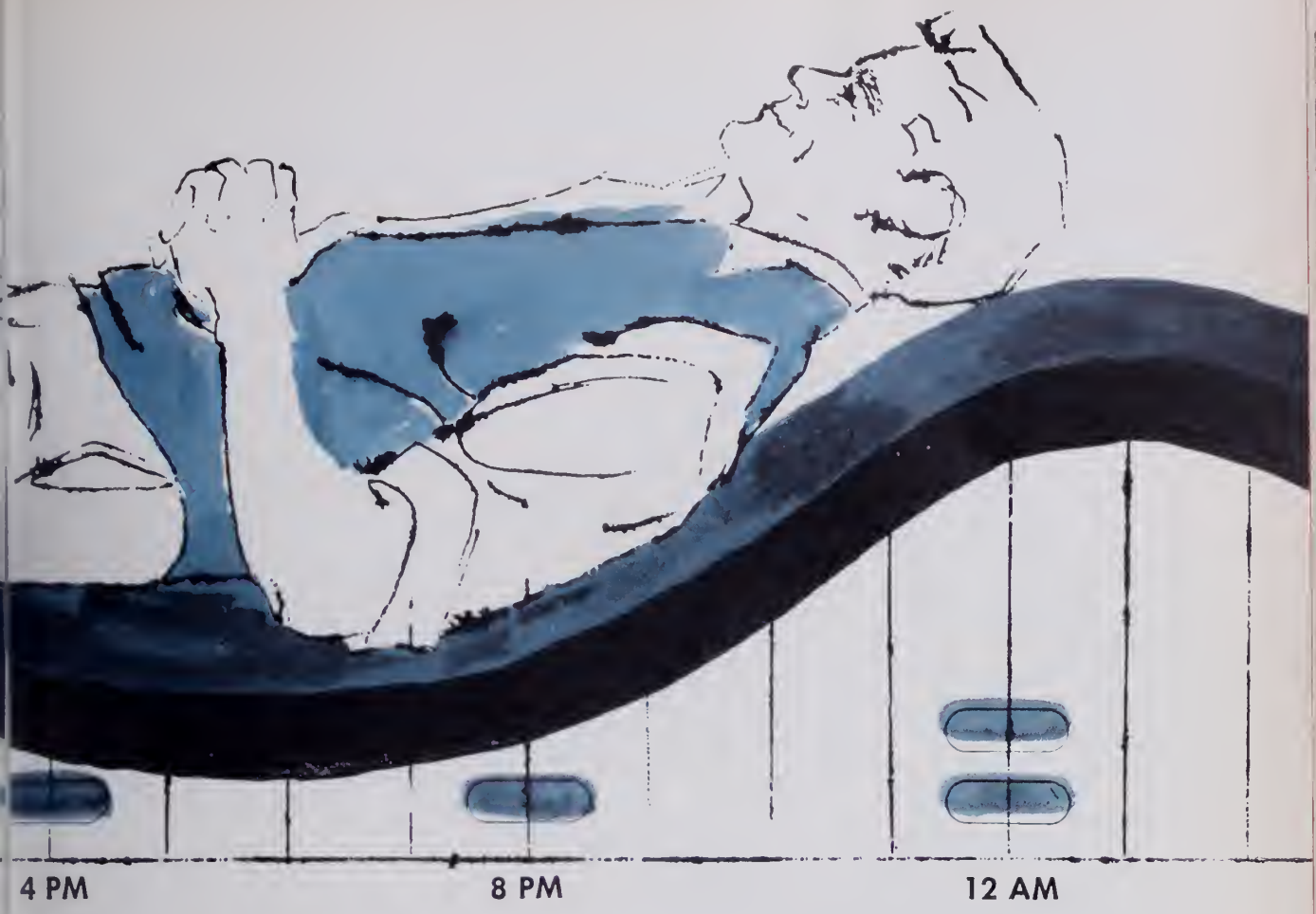
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Phenaphen with Codeine Phosphate ½ gr. (32.4 mg.)

For severe or stubborn pain

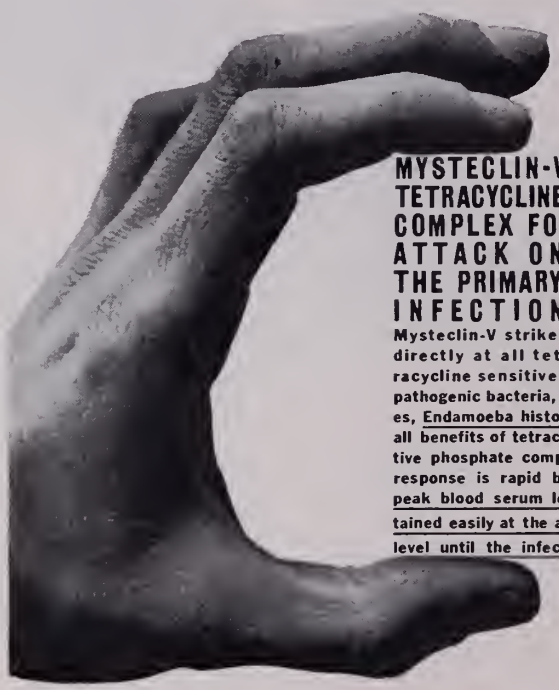
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DOSAGE: One or two capsules as required.

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References: 1. Crunk, G. A., Naumann, D. E., and Casson, K. Antibiotics Annual 1957-1958. New York, Medical Encyclopedia Inc. 1958, p. 397. 2. Newcomer, V. D., Wright, E. T., and Sternberg, T. H. Antibiotics Annual 1954-1955. New York, Medical Encyclopedia Inc. 1955 p. 686

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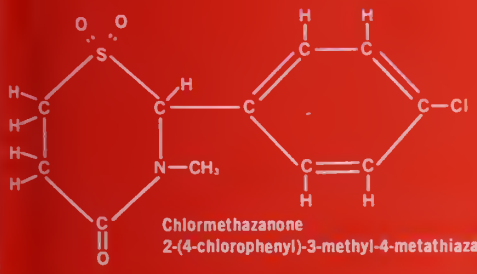
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clinical results in 4092 patients[5]

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"Chlormethazanone [Trancopal] not only relieved *painful muscle spasm*, but allowed the patients to resume their normal activities with no interference in performance of either manual or intellectual tasks."[2]

Lichtman, New York Polyclinic Medical School and Hospital

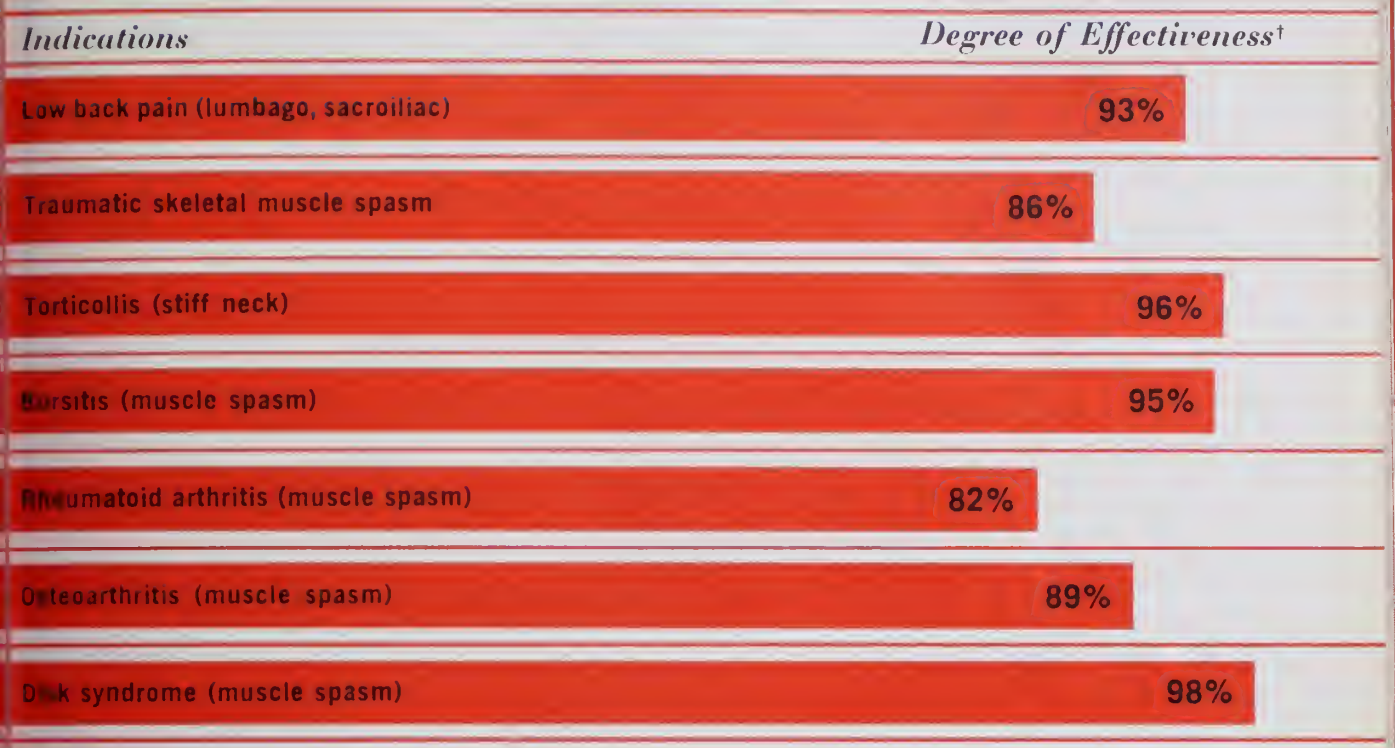
"The effect of this preparation in these cases [skeletal muscle spasm] was *excellent and prompt . . .*"[3]

Mullin and Epifano, Long Island College Hospital

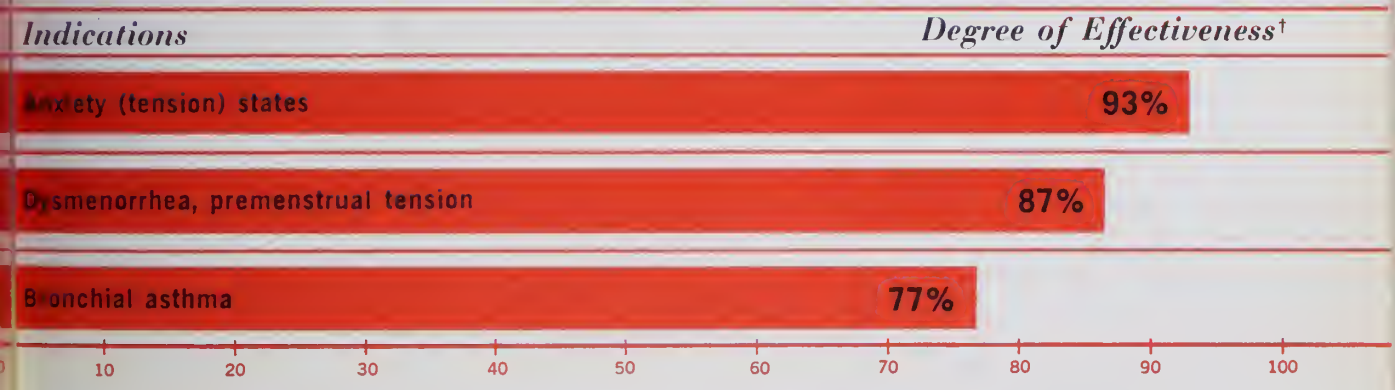
"In 120 patients with *anxiety or tension states*, 114 received satisfactory control of their condition. *Severe dysmenorrhea* and *premenstrual tension* in 65 patients refractory to the usual medications were relieved satisfactorily in 56."[4]

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INDICATIONS

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Bursitis
Rheumatoid arthritis
Osteoarthritis
Disk syndrome
Fibrositis
Joint disorders (ankle sprain, tennis elbow, etc.)
Myositis
Postoperative myalgias

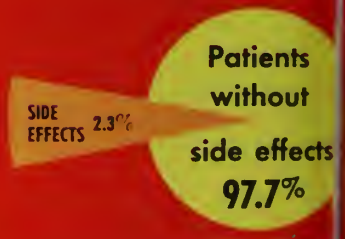
Psychogenic
Anxiety and tension states
Dysmenorrhea
Premenstrual tension
Asthma
Angina pectoris

Neurologic
Muscle spasm (in paralysis agitans, multiple sclerosis, hemiplegia, cerebral palsy)

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1 Baker, A. B.: Drugs to relieve increased tonus, spasticity and rigidity of muscles, Modern Med. 26: 140, April 15, 1958. • 2 Lichtman, A. L.: New developments in muscle relaxant therapy, Kentucky Acad. Gen. Pract. J. 4: 28, Oct., 1958. • 3 Mullin, W. G., and Epilano, Leonard: To be published. • 4 Lichtman, A. L.: To be published. • 5 Cooperative Study, Department of Medical Research, Winthrop Laboratories

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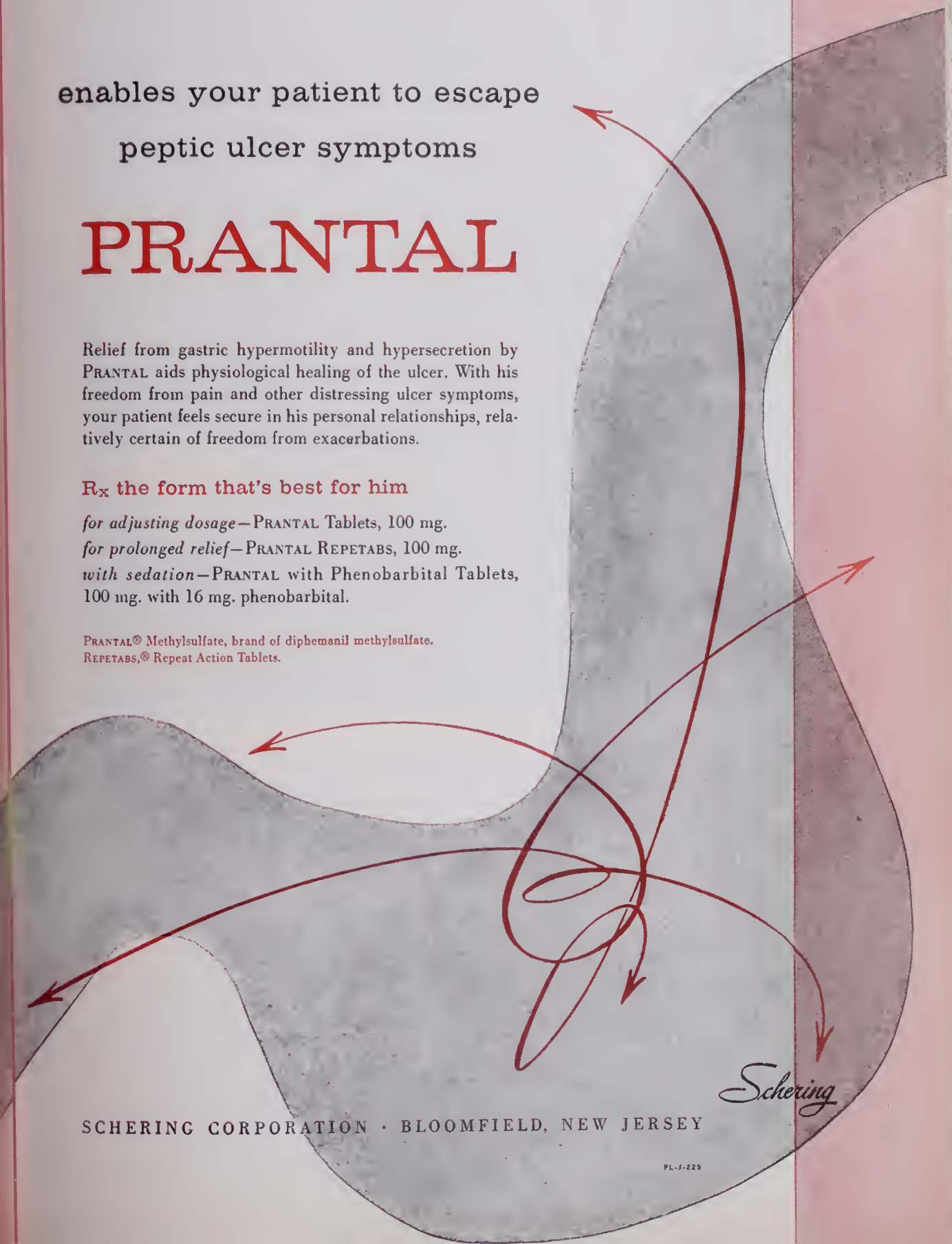
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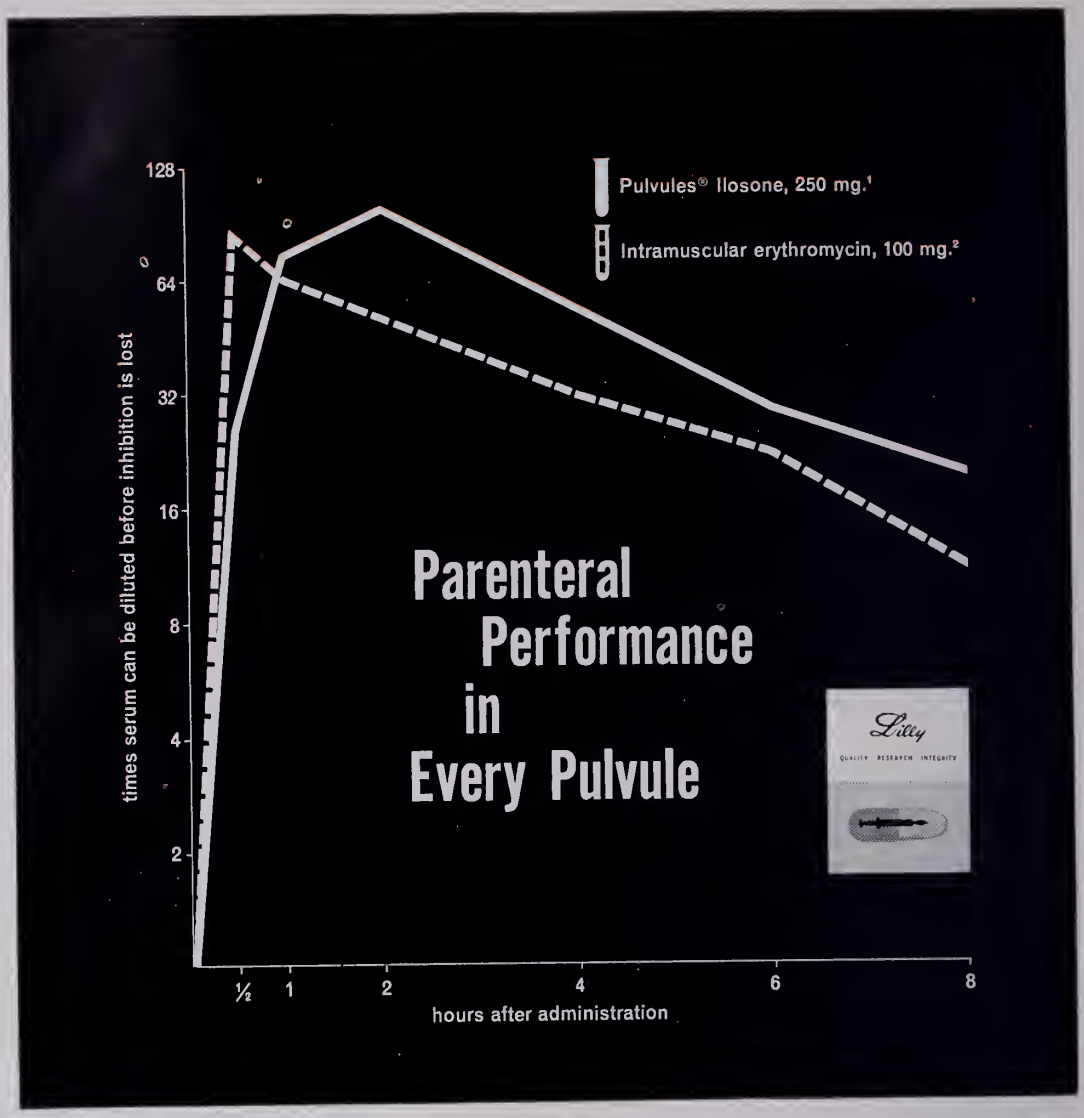
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1. Antibiotic Med. & Clin. Therapy, 5:609, 1958.
2. Data from Antibiotics Annual, p. 269, 1954-1955.

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Active Therapy for Cerebrovascular Insufficiency A Symposium

• Presented by the Ochsner Foundation Hospital Staff at a joint scientific meeting with the Orleans Parish Medical Society, Ochsner Foundation Hospital, November 10, 1958.

ALTON OCHSNER, M.D., MODERATOR
New Orleans

THE subject of the symposium this evening is one that is of interest to all of us, because as we grow older, we become more susceptible to cerebrovascular insufficiency. Until recently, however, this condition was very much as Charles W. Warner considered the weather, "Everybody talks about it, but nobody does anything about it." Fortunately, this is no longer the case because, although many patients have irreparable cerebrovascular disease, many others have lesions that are amenable to definitive therapy and some can even be completely rehabilitated.

Clinical Diagnosis of Cerebrovascular Insufficiency

• A neurologist reviews the causes and the symptoms and signs of cerebrovascular insufficiency.

THEODORE L. L. SONIAT, M.D.
New Orleans

THE symptoms of a stroke or an impending stroke are becoming more and more common as the life span of the general population is increased. Such symptoms represent a frequent reason for consulting the family physician. The stroke may be the result of cerebral thrombosis or cerebral hemorrhage. The former is usually associated with a severe degree of arteriosclerotic changes in the cerebral

From the Department of Neurology and Psychiatry, Ochsner Clinic, New Orleans.

blood vessels, and the latter with vascular hypertension. In addition to these localized lesions (or "strokes"), we have recently become more and more alerted to the fact that certain cerebral symptoms, which are not due to such well localized lesions, are the result of intermittent cerebrovascular insufficiency, that many of these symptoms are episodic, and that prolonged administration of anticoagulant drugs often prevents recurrence of the neurologic symptoms and thus reduces the mortality rate or at least delays death.

Factors in Pathogenesis

Representing 2 per cent of the body weight, the brain normally receives about one-sixth of the heart's output of blood and consumes nearly 20 per cent of the oxygen utilized by the body as a whole. The brain is completely dependent upon oxidative energy, and therefore, upon a continuous supply of oxygen. Since the brain cannot, or at least, does not appear to utilize fats or proteins for energy, the continuous supply of glucose is equally essential to normal cerebral activity.

In man, the brain is supplied with blood entirely by means of the paired internal carotid and vertebral arteries, and there are no really significant anastomoses with the extracerebral arteries, such as exist in lower mammals. The rate of cerebral blood flow, like that of the circulation through any organ, depends on only two factors, although each of these may in turn be the resultant of a host of other variables. These two factors are: (1) the pressure head or the difference between the arterial and venous pressures at the level of the cranium, and (2) the resistance or hindrance imposed on the flow of blood through the vessels of the brain. Obviously, the latter factor is the commonest cause of cerebrovascular insufficiency, the usual culprit being atherosclerosis. Symptoms referable to an area of the brain ensue when a defect in the collateral circulation to that area arises.

Symptoms and Signs

The most striking feature of generalized cerebral disorder associated with arterial ischemic disease of the brain due to atherosclerosis is progressive mental deterioration, which may be punctuated by occurrence of cerebrovascular accidents. The hypertension is a diffuse process with local involvement of areas of the brain and is characterized by rapid fluctuations in the severity of symptoms.

We must accustom ourselves to thinking in terms of caroticobasilar arterial insufficiency because of the configuration of the circle of Willis, and because occlusions in the carotid system may even be "silent" if the basilar system and the circle of Willis afford effective collateral circulation. However, as far as symptoms are concerned, it is convenient to describe a syndrome of internal carotid arterial insufficiency and a syndrome of basilar arterial insufficiency. In cerebrovascular insufficiency, cerebral infarcts result from tissue anoxia.

Thrombosis of an internal carotid artery may result in massive hemiplegia without warning, occasionally with blindness in the ipsilateral eye; it may cause no symptoms at all (if the collateral circulation is efficient), or it may give rise to gradually developing, contralateral hemiplegia, initially more severe in the hand and face, and often associated with aphasia. Headache on the side of the diseased artery may be severe, and thus imitate a brain tumor when onset of the hemiplegia is gradual.

Intermittent internal carotid insufficiency due to narrowing of the artery is denoted by periodic attacks of unilateral impairment of motor or sensory function. Aphasia may occur when the dominant hemisphere is involved. Occassionally, vision in the eye on the side of the affected artery is impaired. Each attack begins abruptly, usually lasts from five to fifteen minutes, and may recur at irregular intervals for many months or years. Neurologic deficit is not noted after a single attack but frequent episodes result in some degree of neurologic deficiency. These transitory episodes result from transient ischemia due to the fact

that the collateral circulation has become inadequate.

In total thrombosis of the basilar artery, all extremities are usually affected. Frequently, consciousness is clouded and there are symptoms arising from dysfunction of the various bulbar nuclei affecting the functions of speech, swallowing, ocular movements, and the like. Massive occlusion of the basilar artery is commonly fatal, but the range of duration of survival is wide.

Intermittent insufficiency of the basilar artery causes transitory attacks of neurologic dysfunction, which begin suddenly and ordinarily last from five to fifteen minutes. Abnormal neurologic signs are usually detectable during such an episode but disappear at the end of the attack; repeated episodes may produce a slight neurologic deficit. Symptoms, which vary according to the site of insufficiency, include amaurosis, ptosis, clouding of consciousness, mental confusion, vertigo, nausea, vomiting, unsteadiness, dysarthria, dysphagia, headache, sensory phenomena, and paretic phenomena. The same symptom on opposite sides of the body, occurring in definite attacks, suggests the diagnosis.

Diagnosis

In suspected cases of occlusion of the carotid artery, the diagnosis can sometimes be confirmed by palpation of the vessels of the neck. If the common carotid artery is also involved, absence of pulsation at the level of the bifurcation may be readily demonstrable. If only the internal carotid artery is involved, the carotid pulsation may be more bounding on the side of the occlusion when the neck is palpated, since the blood cannot flow through the occlusion. Conclusions drawn from palpation of these arteries, however, are often unreliable. Palpation of the internal carotid artery from the pharynx is a test most examiners have found unsatisfactory. Use of the ophthalmodynamometer, in skilled hands, has a high degree of accuracy and is a valuable test for confirming a suspected diagnosis of occlusion of one of the internal carotid arteries. Compression of the opposite carotid artery may be followed by immediate impairment of consciousness; this test should be used with great restraint. The diagnosis can be absolutely confirmed by carotid arteriography, and in the case of basilar arterial insufficiency, by vertebral arteriography.

Historical Note

This number completes the first half year of our Journal, and we have the gratification to announce that we have already the most satisfactory assurances of the success of the enterprise. We are now convinced that we did not overrate the talent and energy of the Southern Medical Profession, when we projected a work, which we believe is to redound so much to its honour and improvement.

Our subscription list, from a very humble beginning, is constantly increasing, and has already attained an extent that will ensure the continuation of the work. A good many of our subscribers are still in arrears, but we are pleased to say that our receipts have been sufficient to defray all our current expense.

N. O. M. & S. J. 1:214 (October 15) 1844.

Carotid and Vertebral Angiography

• A definitive method of diagnosis in cerebrovascular insufficiency is described, together with its advantages and results.

JOHN DAVIES JACKSON, M.D.
New Orleans

ANGIOGRAPHY has become a commonly employed procedure because it assists in establishing a diagnosis of cerebrovascular insufficiency and aids in the selection of patients for operation by revealing the location of kinked, stenotic, or occluded arteries. Thus, angiography is indicated in the majority of patients who have apoplexy, as well as those who have transient recurrent episodes of weakness or numbness of an extremity, staggering, dysphagia, homonomous hemianopsia, confusion, or unconsciousness. The procedure is contraindicated in patients who are extremely senile or have uremia, severe hepatic disorders, or hypersensitivity to the contrast medium. We do not consider old age in itself a contraindication.

Technic

Carotid Angiography — Most patients with cerebrovascular insufficiency require only bilateral visualization of the carotid arteries. The amount of premedication is determined by the age and weight of the patient. Usually, the average adult receives 1/6 gr. of morphine sulfate, 1/150 gr. of atropine sulfate and 2 gr. of sodium luminal forty-five minutes before angiography. After injection of a local anesthetic, the common carotid artery is entered just above the clavicle, with an 18 gauge needle. Usually this is easily accomplished and well tolerated by most patients. Two injections on the side of the lesion and one injection on the other side, of 10 cc. of 50 per cent Hypaque Sodium® are usually necessary to demonstrate the carotid systems bilaterally.

From the Section on Neurosurgery, Ochsner Clinic, New Orleans.

Vertebral Angiography — In patients having symptoms referable to the basilar artery, such as dizziness, numbness on both sides of the body, staggering, ataxia, diplopia, blurred vision, dysarthria, and dysphagia, it is necessary to perform vertebral angiography as well as carotid angiography. The brachial artery or its ulnar branch is exposed after administration of premedication and injection of a local anesthetic. A No. 8 cardiac catheter is passed up the brachial artery into the subclavian artery to the approximate point of origin of the vertebral artery. Ten cubic centimeters of Hypaque is injected to demonstrate the vertebral-basilar system. After the catheter has been removed, the artery is sutured so that its lumen is patent. If the vertebral artery proves to be obstructed, the procedure must be repeated on the opposite side. This method of angiography is safe, whereas direct insertion of a needle into the vertebral artery could be dangerous, if the other vertebral artery is stenosed or occluded.

How Safe Is Angiography?

Many complications of cerebral angiography, including death, have been reported. These have been due mainly to the irritating effects of the contrast medium, most reports having appeared during the period when Urokon® and Diodrast® were used. Today, when Hypaque is used almost exclusively, few severe or minor complications occur. The primary disadvantage of Hypaque is the burning sensation experienced for about forty-five seconds in the neck, face, and head when the dye is injected. In more than 200 cerebral angiograms made at the Ochsner Clinic with Hypaque as the contrast med-

ium, there were 5 cases of hemiparesis, which subsided in less than four hours. Three patients had convulsions, and in a few urticaria developed. A high percentage of patients complained of a sore neck the next day, due to extravasation of blood into the peri-arterial tissues of the neck. Consequently, we consider angiography a safe procedure, and use it not only in patients with cerebrovascular disease, but also in those suspected of having intracranial tumors or hematomas.

Interpretation of Angiograms

Arteriosclerosis, which affects the cervical and intracranial arteries with equal frequency, is well demonstrated by angiography because the vessels become tortuous. In fact, kinking may be so sharp as to cause relative stenosis. In the neck, and more rarely in the head, the media becomes sufficiently weakened to lead to formation of an aneurysm. By angiography atheromatous plaques, which are narrowing the lumen and giving rise to

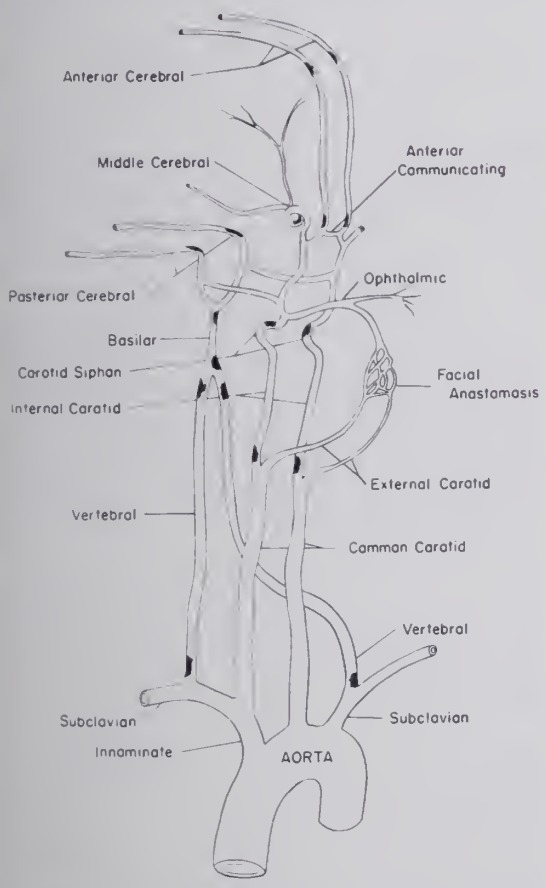


Figure 1. Common sites of stenotic atheromatous plaques in the cervical and cerebral arteries.

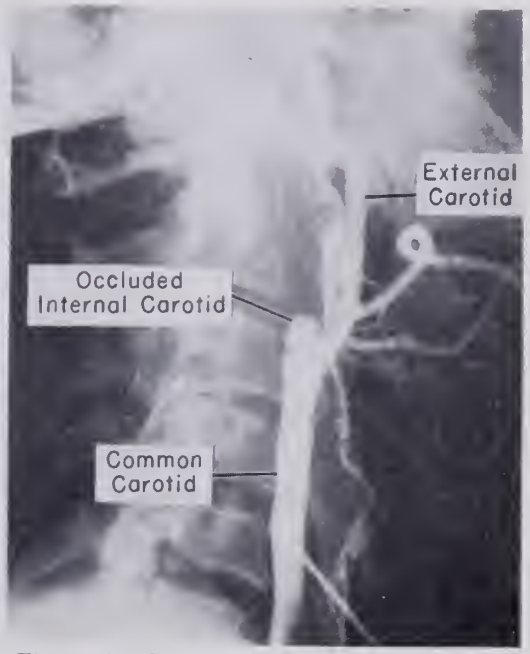


Figure 2. Carotid angiogram in which complete occlusion of the internal carotid artery just distal to its origin is demonstrated while the external carotid artery fills.

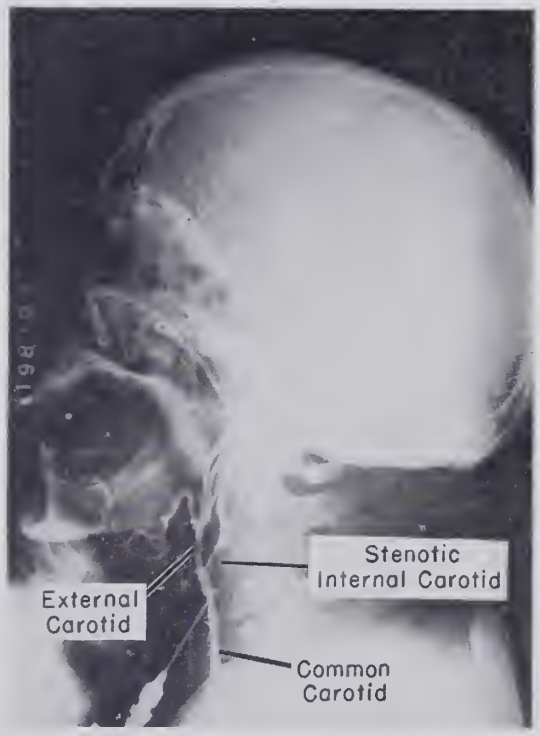


Figure 3. Carotid angiogram demonstrating a large mural plaque creating severe stenosis of the internal carotid artery at its origin.



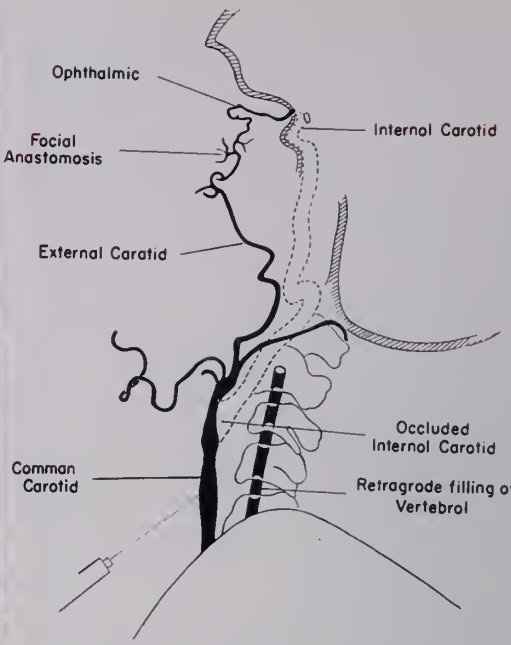


Figure 4A. Carotid angiogram which demonstrates complete occlusion of the internal carotid artery at its origin. Collateral circulation between the external carotid artery and cerebral circulation is visualized by the contrast medium which fills the facial anastomosis and the ophthalmic artery which empties into the internal carotid artery intracranially. Also dye has passed in a retrograde fashion down the common carotid artery into the subclavian artery and can be seen filling the vertebral artery in the neck. 4B. Schematic representation of angiogram shown in Figure 4A.

cerebral insufficiency and occasionally to cerebral embolism, may also be demonstrated. It is interesting that these stenosing or occluding plaques have certain sites of predilection [1] (Figure 1). The internal carotid artery is involved most often at its origin and at the clinoid process (Figures 2-4). The first major bifurcation of the middle cerebral artery is a common site for occlusion. Stenosis of the anterior cerebral artery occurs usually at its origin or as it curves around the genu of the corpus callosum. The vertebral arteries are usually stenosed or obstructed at their origin or near their junction into the basilar artery. The basilar artery is involved in the first centimeter or at the bifurcation into the posterior cerebral arteries, which becomes stenosed as these arteries wind around the cerebral peduncles. As the main channels become stenotic, the collateral channels begin to take over, with occasional complete reversal of blood flow in the collateral channels. The final clinical picture is determined by the adequacy of these collateral channels. Fortunately, a large percentage of the partially obstructive lesions demonstrated by angiography are located extracranially and are amenable to surgical correction.

Reference

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Reconstructive Surgical Procedures for Cerebrovascular Insufficiency

• In approximately 25 per cent of patients with acute cerebrovascular insufficiency surgical treatment is of benefit because the stenosis or occlusion is in extracranial great vessels.

PAUL T. DeCAMP, M.D.
ALTON OCHSNER, JR., M.D.
New Orleans

RECONSTRUCTIVE surgical procedures in selected patients with cerebrovascular insufficiency may provide amelioration or complete relief of symptoms. This is possible because the most important sites of stenosis or occlusion are the great vessels outside the cranium in approximately 25 per cent of patients with acute cerebrovascular ischemia, and in patients having recurrent "little strokes," the incidence is undoubtedly higher. On careful postmortem examination of the entire cerebrovascular blood supply of 83 consecutive patients with atherosclerotic cerebrovascular insufficiency Hutchinson and Yates [1] found no evidence of vascular stenosis within the cranium and significant stenosis of one or more major vessels in the neck of 40 patients. Of these, 10 had lesions of the carotid artery alone, 7 of the vertebral artery alone, and 23 of both the carotid and vertebral arteries. Two important principles are thus established: (1) Atherosclerotic cerebrovascular insufficiency is often associated primarily with stenotic or occlusive lesions in large arteries in the neck, and (2) such lesions are frequently multiple. The commonest sites of atherosclerotic involvement of the carotid vessels are the proximal segment and the siphon of the internal carotid artery. The vertebral artery is frequently involved at its proximal orifice. Lesions may also occur in the common and innominate arteries.

From the Department of Surgery, Ochsner Clinic, New Orleans.

Etiology

Atherosclerosis is the commonest cause of significant stenosis of the extracranial vessels supplying the brain, but stenosis may result from trauma, a vascular anomaly, chronic arteritis (Takayasu's disease),[2] aneurysm, neoplasm, or infection. Acute inflammation may precipitate acute thrombosis, particularly in a child. Constrictive periarterial fibrosis may develop after an infection. Of our 18 cases 14 were due to atherosclerosis, 2 to anomalous vessels, 1 to trauma and 1 to infection.

Diagnosis

Accurate diagnosis of the location and extent of stenotic lesions is essential to intelligent planning of surgical treatment. Careful physical examination and sharply defined arteriograms are mandatory. Bilateral carotid arteriography is indicated even if symptoms are unilateral. Bilateral vertebral arteriography is indicated if "basilar" vascular insufficiency is suspected, and thoracic aortography should be performed if there is evidence of stenosis of the branches of the aortic arch. Complete mapping of all vessels is highly desirable.

Surgical Therapy

Surgical procedures to restore circulation include thrombo-endarterectomy,[3] excision and suture, excision and graft, bypass graft,[4] correction of a vascular anomaly, arterial unbridling and excision of an extrinsic constrictive tumor. If the wall of the vessel has been seriously damaged by trauma or disease, the affected

segment must be removed and circulation restored by direct arterial suture or insertion of a graft. An extrinsic tumor that constricts the arterial lumen must be excised. If a neoplasm has invaded the vascular wall, the involved segment may be removed and a graft inserted. If the vascular wall is intact but the lumen has been occluded by atheromas, endarterectomy or a bypass grafting procedure may be performed. Transposition of the internal to the external carotid artery is unsatisfactory.

Results of reconstructive surgical procedures can be successful only if there is an open distal vessel. This is present in almost all cases of stenosis, and in most cases of occlusion below the internal carotid artery. Unfortunately, occlusion of even the proximal segment of the internal carotid artery is rapidly followed by thrombosis extending well up into the cranium. Even though a long thrombus can be extracted from such a vessel, it is rarely possible to restore circulation.

Superior cervical sympathectomy is, in our opinion, valuable and we regularly perform it whenever vascular reconstruction cannot be effected. Prolonged anticoagulant therapy is frequently helpful for symptoms related to associated intracranial vascular lesions.

Cerebral Protection During Operation—If open vessels must be occluded during vascular reconstruction, care must be taken not to damage the brain. This may be done by reducing the cerebral requirement for oxygen by use of generalized hypothermia.[3] This has proved effective in our experience but it is a clumsy method that requires general anesthesia. Actually, in most instances the patient will tolerate the necessary operative vascular occlusion even at normal temperatures. With local anesthesia serious cerebrovascular insufficiency can be detected at once. With general anesthesia this is not true. If a local anesthetic is employed and the patient remains conscious during a trial period of vascular occlusion, special protection is not needed. If temporary occlusion causes unconsciousness, the blood flow to the brain must be supplemented during the period of operative occlusion. This may be done by insertion of a temporary bypass shunt, by mechanical assistance to the distal circulation, or simply by distal transfusion of arterial blood. This last method has proved simple and entirely satisfactory in our experience. If cerebral protection is necessary, the patient is given one or two bottles of stored blood intravenously while a similar quantity of arterial blood is withdrawn into heparin bottles from the common carotid artery. This blood is set up for transfusion into the distal internal carotid artery through a large right-angle needle. As soon as the vessels have been occluded, the arterial blood is pumped into the distal vessel at a rate sufficient to keep the patient conscious and alert. The quantity of blood required is not large even if tolerance to vascular occlusion is extremely poor. For instance, in one of our patients whose contralateral internal carotid vessel was thrombosed and who became unconscious after thirty seconds of trial vascular occlusion, only 550 ml. of blood was required during occlusion of the common, internal and external carotid arteries for fifteen minutes. This is a rate of 37 ml. per minute. In not one of our 18 patients have we had any evidence of cerebral damage during the operation.

Clinical Series

We have attempted reconstruction of 23 internal carotid or common carotid arteries in 18 patients. Excision with suture was performed once, excision with graft insertion once, transposition of a vessel twice and unbridling once. Endarterectomy was performed on 18 vessels in 13 patients. In addition, several external carotid arteries were endarterectomized. Superior cervical sympathectomy was performed in 9 of these, bilaterally in 4.

In one patient a segment of an extremely redundant and kinked internal carotid artery was excised with benefit. One patient was comatose on admission several hours after a severe injury which resulted

in acute occlusion of the left common carotid artery. The completely thrombosed segment of the intrathoracic portion of the vessel was excised and a crimped nylon graft was inserted. The graft functioned well but the patient died the next day from cerebral infarction, which occurred before the circulation was restored. In our first patient the distal open internal carotid artery was anastomosed to the proximal end of a patent external carotid artery. Improvement was modest and transient. This operation has generally proved unsatisfactory.

A left-handed man, aged 51 years had had repeated attacks of syncope, paresthesias of the left side of the face and left hand, weakness of the left hand, blurring of vision in the right eye, and mild motor aphasia for two weeks before admission. The symptoms varied with changes in position. Pulsation of the right common carotid artery was extremely weak. At operation (Figure 1) the origin of the right subclavian and right common carotid arteries was found to be anomalous. The right common carotid artery arose from the left side of the aortic arch. As the vessel passed to the right, it was apparently severely constricted between the trachea and the sternum. It was possible to transpose the vessel to its normal position on the ascending arch (Figure 1). All symptoms were promptly relieved and the patient has remained asymptomatic since operation ten months ago.

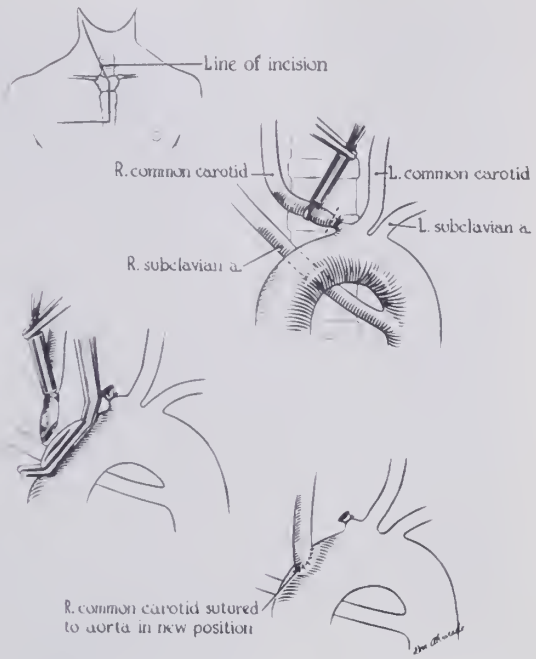


Figure 1. Anomalous origin of right common carotid artery from left side of aortic arch. Symptoms of cerebrovascular insufficiency completely relieved by transposition of vessel to normal origin from right side of aortic arch.

A woman, aged 43 years, had had weakness of the right leg for six months and increasing weakness and paresthesias of the right arm for four weeks. Definite residual neurologic signs were present. Concentric narrowing of the left internal carotid artery was noted in the arteriogram (Figure 2A). At operation periar-



Figure 2. (A) Arteriogram demonstrating stenosis of left internal carotid artery due to periarterial fibrosis. (B) Arteriogram demonstrating a normal lumen one year after arterial unbridling.



Figure 3. Arteriograms demonstrating complete occlusion of left internal carotid artery and severe stenosis of right internal carotid artery. Pronounced clinical improvement followed right internal carotid endarterectomy and bilateral cervical sympathectomy.

terial fibrosis was found. Unbridling restored a normal lumen (Figure 2B), and has resulted in complete relief of symptoms for thirty months.

Of the 13 patients on whom endarterectomy was performed, 3 had unilateral occlusion, 5 had unilateral stenosis, 3 had unilateral occlusion and contralateral stenosis (Figure 3), 1 had bilateral occlusion and 1 had bilateral stenosis. Of the 8 vessels completely occluded circulation was restored in only one (Figure 4). As far as is known a normal lumen has been restored in all 10 stenotic arteries (Figure 5). We have objective postoperative proof of the state of 12 of the 18 vessels. In no instance has this been different from that at the conclusion of the operation. Surgical technic must be meticulous if occlusion of such small vessels after endarterectomy is to be prevented. With adequate cerebral protection the operation need not be performed hurriedly. We always visualize the distal margin of the endarterectomized segment and either tack down the distal intimal flap or incorporate it in the vascular suture. Transverse incisions are closed with interrupted sutures, and extreme care is taken not to compromise the lumen in closing a longitudinal incision. Failures reported by others must frequently be due to faulty or hasty technic. We have not used postoperative anticoagulant therapy.

As indicated by other discussions in this panel, we believe that other indirect therapeutic measures are helpful if vascular reconstruction is impossible, or vascular insufficiency is due to inaccessible lesions. In our 13 patients on whom endarterectomy was done 9 also had superior cervical sympathectomy, bilaterally in 4. In one patient anticoagulant therapy was begun in the postoperative period and in 3 patients this was begun later for residual or new symptoms.

The results of treatment in this series have been gratifying and encourage a continued vigorous diagnostic and therapeutic approach. There was only one postoperative death; the patient was admitted in a comatose condition after severe trauma and acute occlusion of the common carotid artery. Death from cerebral in-



Figure 4. Arteriograms demonstrating (A) complete occlusion of the left internal carotid artery (B) relieved by endarterectomy.

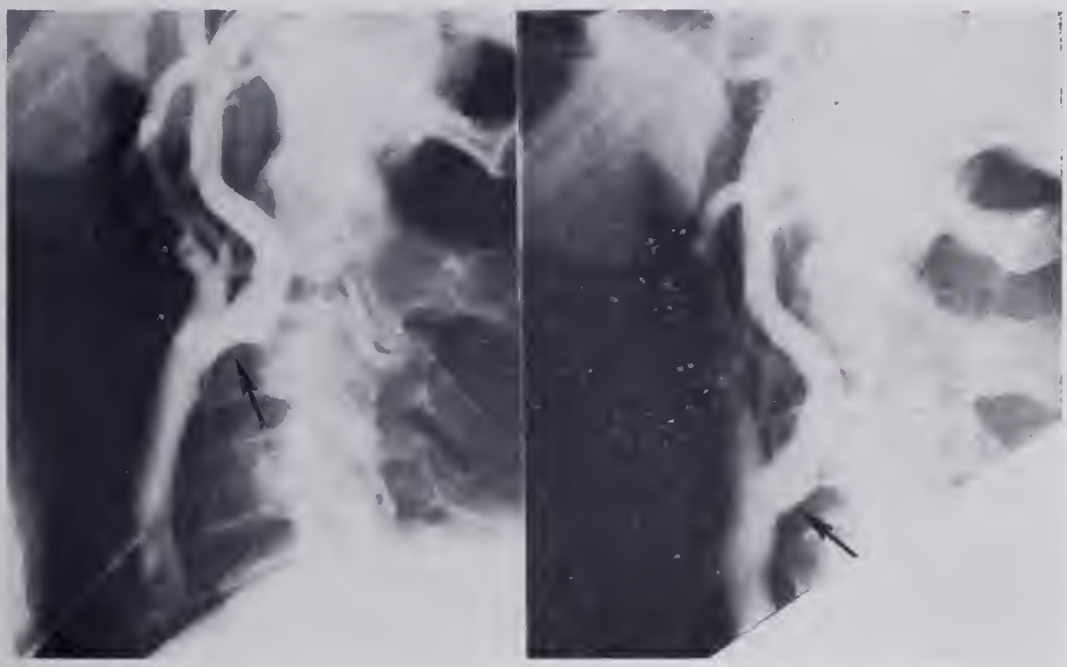


Figure 5. Arteriograms demonstrating (A) severe stenosis of the left internal carotid artery (B) relieved by endarterectomy.

farction occurred in spite of vascular reconstruction achieved ten hours after the injury. There was no evidence of cerebral damage during operation on any of the patients. In 2 patients complications developed in the postoperative period temporarily aggravating cerebral symptoms. In one, distal thrombosis or embolism occurred thirty hours after attempted endarterectomy of a completely occluded internal carotid artery. In the other, severe hypotension developed when the patient sat up on the second day after bilateral internal carotid endarterectomy and bi-

TABLE 1
RESULTS OF SURGICAL RECONSTRUCTION FOR CEREBROVASCULAR INSUFFICIENCY

Lesion	Cases	Results			
		Died	Unimproved	Improved	Asymptomatic
Complete Occlusive (1 bilateral)	5	1	2	1	1
Stenosis (1 bilateral)	8		1	3	4
Occlusion and contralateral stenosis	2			2	
Total	15	1	3	6	5

lateral cervical sympathectomy. In both of these instances cerebral damage occurred with subsequent recovery. Three patients were treated too recently to evaluate the results. In the other 15 the follow-up period ranged from four to thirty months. The results in these 15 cases are shown in Table 1.

It is to be noted that improvement occurred in 2 of 5 patients with complete occlusion, and in 9 of 10 with partial occlusion. In view of the difficulty in restoring blood flow after complete occlusion of the internal carotid artery, the 2 good results in this group merit comment. In one of these patients, aged 57 years, progressive and finally complete right hemiplegia and complete motor aphasia developed. At operation, thirty hours after onset of symptoms, the left internal carotid artery was found to be completely occluded (Figure 4A) but distal thrombosis had not yet occurred. Endarterectomy resulted in successful restoration of the lumen (Figure 4B) and a gratifying degree of neurologic recovery has occurred. The other patient had, in the course of two weeks, experienced four attacks characterized by sudden faintness, turning green, sweating profusely, inability to speak, and falling of the right arm to the side. The last attack, which also involved the right leg, lasted thirty minutes. On examination expressive aphasia and hyper-reflexia of the right arm were present. Complete occlusion of the left internal carotid artery was demonstrated in the arteriogram and no lumen could be established at operation. Left superior cervical sympathectomy was performed and long-term anticoagulant therapy was begun. After operation the patient at times experienced mild motor aphasia but he never had another acute episode of paresis or weakness. At this writing, fifteen months later, he is completely asymptomatic.

Five of the 15 patients treated have become completely asymptomatic, 6 were distinctly improved, 3 were unimproved and 1 died. This is an encouraging record. Individual case studies are more impressive than these figures. In patients in whom vascular reconstruction has been successful, transient attacks of cerebrovascular symptoms have promptly disappeared. Neurologic residuals have generally improved slowly but steadily from the time of operation. The speed and degree of recovery have exceeded normal expectations. An additional dividend is prevention of further cerebral damage which would be expected with uncorrected progressive stenosis and occlusion of the carotid vessels.

Further improvement in results is to be expected as increasing experience permits better selection of cases and avoidance of errors of management due to inexperience. Therapeutic potentialities are seriously limited if the internal carotid artery is completely occluded so that every effort must be made to establish the diagnosis when only partial occlusion is present.

Conclusions

1. Acute cerebrovascular ischemia is frequently due to involvement of major extracranial arteries.

2. With adequate precautions reconstructive surgical procedures are safe and highly rewarding clinically, chiefly for stenotic lesions or occlusions below the level of the internal carotid artery.

3. Superior cervical sympathectomy with or without anticoagulant therapy is useful in selected cases.

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Board of Health

The first ordinance for the establishment of a Board of Health in the city of New Orleans (as far as we have learned) was passed by the General Council in June 1841. . . . It was invested with ample powers to adopt and enforce such sanitary regulations as were thought conducive to the health of the city. They were required to make weekly publications of the interments during the sickly season, and monthly, the rest of the year.

The Board performed all of its functions well during the first year of its existence, 1841. If they were not able to adopt such measures as would preserve the health of the city, they at least gave us a pretty correct account of the "killed and wounded." The following year, 1842, it was observed to be somewhat remiss in its duties, but it did not fall quite into dissolution.

At the opening of the present season the Board of Health was found to be literally defunct, and the subject having been brought to the notice of the General Council, that body addressed a communication to the Medico Chirurgical Society, asking its opinion as to the propriety or necessity of having a Board of Health in the city of New Orleans, also any suggestions in relation to it, which the society might offer. The matter was laid before the society, referred to a committee, and a full report returned to the Council in reply. Whereupon, the General Council constituted the Medico Chirurgical Society a Board of Health for the City of New Orleans and invested it with all the powers of the former Board.

New Orleans M. & S. J., 1:97 (July to September) 1844.

The Place of Anticoagulants in the Treatment of Cerebrovascular Disease

• Whether or not anticoagulants prolong the life of the patient with cerebrovascular disease, the authors believe there is a striking decrease in frequency of transient episodes of insufficiency after anticoagulant therapy has been instituted.

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IN 1943, Allen and Barker [1] suggested use of anticoagulant drugs in the management of cerebrovascular disease. Millikan and associates [2-4] then began a long-term study of the effects of anticoagulants in a specific variety of intracranial vascular disease, namely, thrombosis or insufficiency of the basilar or internal carotid arterial system. The impetus for this study was the postmortem observation that the thrombus removed from a basilar artery had a laminated appearance, as if various portions were formed at different times. In addition, gross and microscopic examinations of the areas of infarction showed minimal evidence of bleeding. About the same time, Wright and associates [5] began using anticoagulants in an attempt to decrease the incidence of thromboembolic cerebrovascular accidents in patients with various forms of heart disease, with striking success.[6] Reports are scanty but, in general, it seems to be the consensus that frequency of attacks of cerebrovascular insufficiency is decreased and that life is prolonged by use of long-term anticoagulant therapy.

Indications and Contraindications

At present, we consider use of anticoagulants indicated in patients with: (1) insufficiency of either or both internal carotid arteries, (2) insufficiency of the basilar or vertebral artery, or both, and (3) multiple stroke syndrome. At the moment, we believe that such patients should be offered a choice of: surgical treatment, prolonged anticoagulant therapy or surgical treatment followed by long-term anticoagulant therapy. Selection of the type of treatment to be used in a specific case is difficult. Despite the enthusiasm of our surgical colleagues, many of these patients have diffuse cerebrovascular disease which will not necessarily be helped by attacking one or two isolated areas of obstruction.

It must also be remembered that there are distinct contraindications to use of anticoagulants, such as: (1) hemorrhagic diathesis, (2) the impossibility of excluding cerebral hemorrhage, (3) a history of ulceration in the gastrointestinal tract, (4) chronic hepatic disease, and (5) lack of adequate laboratory facilities.

At this time we believe that it is wise to select a course of therapy after consultation between the internist, neurologist, and surgeon, and after the relative merits of each type of therapy as it applies to the individual patient have been carefully weighed.

Results

Although we have treated only 13 patients with long-term anticoagulant therapy, it is our impression that in all of them the frequency of the episodes of insufficiency was decreased. In some, the transient episodes of neurologic deficit even disappeared altogether, as illustrated by the following patient.

Case No. 1. A white man, 47 years old, was seen at the Ochsner Clinic on August 1, 1956, because of transient episodes of paralysis and

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hypesthesia on the left side, lasting ten to fifteen minutes. The attacks were preceded by "tingling" of the left side of the face. On complete physical and neurologic examinations no abnormalities were detected. A diagnosis of intermittent insufficiency of the right internal carotid artery was made and oral anticoagulant therapy was begun. The patient has had no more episodes of major insufficiency, though for one year after the onset of his symptoms, if the prothrombin time fell below the therapeutic range, the patient would note transient episodes of "tingling" of the left side of the face. During the past year he has had no symptoms and continues to take the anticoagulants daily.

We have been impressed that in most of our patients other complications of atherosclerosis have developed, some even during adequate anticoagulant control. The following patient is an example:

Case No. 2. A white man, aged 53 years, was seen on July 30, 1956, because of transient episodes of diplopia and numbness of the right side of the face and right arm of two month's duration. Transient strabismus was noted during an attack. The patient had been under our care for several years because of severe hypertension and chronic renal disease.

It was decided to treat the patient with anticoagulants despite the hypertensive disease. After the prothrombin time had reached therapeutic range, the episodes of numbness and diplopia ceased.

The patient was asymptomatic for eighteen months except for occasional hematuria thought to be due to the anticoagulants, but use of the drug was continued as the hematuria was never severe. The patient died suddenly in December 1957, of coronary occlusion, despite adequate anticoagulant therapy.

There is obviously no way of knowing whether life has been prolonged by use of anticoagulants or by surgical treatment, since we never know what would have happened had another course of therapy been employed. It is unfortunate that there is no objective means of determining to what extent any of the suggested therapeutic measures actually improves cerebral circulation. Theoretically, one would expect the role of anticoagulant therapy to be to prevent or at least delay formation of a clot that might convert a partially stenosed vessel into an occluded one. Also, propagation of a thrombus, if present, might be inhibited. It is this which should justify the therapeutic use of anticoagulants in the treatment of cerebrovascular insufficiency. Since neither the degree of stenosis nor the hemodynamics involved in the diversion of blood away from the cerebrovascular tree during episodes of insufficiency is altered, we have no explanation for the rather striking decrease in frequency of the transient episodes of insufficiency after anticoagulant therapy has been instituted.

Prothrombin Time

When we decide to treat a patient with anticoagulants, we prefer to prescribe oral medication and follow the effects of therapy by frequent determinations of the prothrombin time. We strongly believe that the prothrombin time must always be kept within the therapeutic range, and we expect most of our patients at one time or another to bleed (Case No. 2). Unless such hemorrhage is serious, we are not alarmed and continue use of anticoagulant therapy. We do not agree with the all too prevalent point of view that administration of anticoagulants in a dosage below the therapeutic range is safe and may even be beneficial and is therefore acceptable treatment for patients with cerebrovascular insufficiency.

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Acute Focal Cerebral Ischemia

• The outhors outline theories of the etiology of focal cerebrovascular insufficiency and o further mode of treatment and summorize potentiol therapeutic programs.

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CONSIDERABLE controversy continues to exist regarding the etiology and treatment of both minor and major bouts of focal cerebral ischemia. For example, all agree that the victim of a major stroke should receive general supportive measures as indicated, but some [1] object to the more definitive treatment of the focal ischemia by sympathetic blocks,[2] chiefly on the theory that such treatment would not alter the cerebral circulation. However, reports in the medical literature of favorable results of such treatment greatly outnumber reports of unfavorable results.

Undoubtedly, everyone would agree that no definite rule can be followed in the care of patients who have sustained strokes except that appropriate treatment should be selected after evaluation of each patient from many aspects, such as their chronologic and apparent physiologic ages, general health and cardiovascular status, as well as the neurologic deficit. The essential problem, of course, is to improve the blood supply to the involved part of the brain by restoring the direct circulation, or by increasing the collateral circulation by dilating the anastomotic connections between the major cerebral arteries.

Sympathetic Interruption

In evaluation of treatment of focal cerebral ischemia by interruption of sympathetic impulses to the head it is of some interest to consider certain experimental and clinical data relative to the cerebral blood flow. Some experimentalists have presented data interpreted as demonstrating that the cerebral blood flow cannot be significantly increased by interruption of sympathetic impulses to the head. They have stressed the pronounced stability of the intracranial pressure and the apparent dependence of the cerebral blood flow upon extracranial factors, such as cardiac function and the systemic blood pressure. It is well established that a great potential for development of adequate collateral circulation to any part of the cerebrum exists anatomically, owing to the presence of the circle of Willis, the pial plexus, connections between the intrinsic cerebral arterioles and connections between the branches of the external carotid artery and the ophthalmic artery. It is known now, primarily because of the use of angiography, that many patients who have had minor or major bouts of acute focal cerebral ischemia have partial or complete occlusion of the distal portion of the common carotid artery or of the proximal portion of the internal carotid artery.

As would be expected, in those in whom some interference of carotid blood flow is demonstrated, the area of greatest neurologic deficit is referable to the cortex farthest removed from the opposite carotid blood flow. That is, the most prominent neurologic deficit usually consists of numbness and tingling of the side of the face and upper extremity opposite the carotid occlusion and weakness of the upper extremity. The corresponding lower extremity is affected usually in major strokes and often in minor strokes, but to a lesser degree. This suggests that the critical final precipitating factor is one of hemodynamics in that the most

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severe deficits are referable to that part of the arterial tree farthest from the source of arterial blood pressure. This explanation alone does not seem compatible with the fact that many patients with complete occlusion of one internal carotid artery demonstrate only transient intolerance periodically to the lesion. Furthermore, a fall in the systemic blood pressure has not been correlated consistently with such transient bouts of focal cerebral ischemia. On the contrary, these attacks often are associated with periods of emotional stress when it would be expected that the blood pressure might be higher than usual.

Zak and Elias [3] suggested that bouts of cerebral ischemia might be produced by the formation of emboli from atheromatous lesions of the large arteries supplying the brain. Fisher and Adams [4] theorized that such emboli might start a series of reactions producing hemorrhagic infarction of the cerebrum. The absence of angiographic or postmortem evidence of such emboli in the majority of these patients makes one doubt that they are a common cause of these attacks. It seems highly improbable that these explanations could apply in any of the cases in which repeated transient attacks of focal cerebral ischemia occur in the presence of complete obstruction of the internal carotid artery.

Many consider bouts of spasm of the small arterioles of the brain commonly to be the final precipitating factor for attacks of acute focal cerebral ischemia. Paterson [5] suggested that spasm of an arterial tree might be produced by rupture of small nutrient mural vessels arising from the lumen of the parent artery owing to transmission of undue pressure along the relatively thin-walled mural vessel. It seems unlikely that an adequate explanation for the cause of such focal vasospasm has been offered, but the mechanism may be similar to that observed in the digits with certain vasospastic diseases, or, in the gastric mucosa.

Besides the absence of a completely satisfactory explanation of the exact mechanism of the final reaction that most commonly precipitates a bout of focal cerebral ischemia, it has been difficult to understand why one patient will tolerate complete occlusion of an internal carotid artery without demonstrating any evidence of cerebral ischemia; whereas severe hemiplegia and hemihypesthesia will develop followed by obvious cerebral softening in another patient whose cardiovascular status is apparently comparable. It seems probable that one may be born with several types of predilection for later development of strokes. For example, formation of atheromatous lesions seems to be, to a considerable extent, a matter of genetics. The same may be true to some degree for the phenomenon of undue vasospasm. Congenital anomalies in the anatomy of the circle of Willis are common [6] and possibly constitute an important cause of the variations in tolerance to partial or complete occlusion of an internal carotid artery. The most common anomaly that seems significant in this respect is trifurcation of the internal carotid artery. With the normal anatomic pattern of bifurcation of the internal carotid artery, the cerebral hemisphere is much less dependent upon uninterrupted flow through the carotid system than with trifurcation of the artery. With trifurcation, development of satisfactory collateral blood flow from the vertebral system through the anastomotic relations between the anterior and middle cerebral arteries with the posterior cerebral artery is considerably less likely to occur.

Many have reported clinical improvement in patients with focal cerebral ischemia of acute onset after cervical sympathetic block since Leriche and Fontaine's [7] successful report of use of this procedure twenty-two years ago.

The case of a 37-year-old oil field worker, previously reported,[8] demonstrates particularly well the potential value of sympathetic block in the treatment of acute focal cerebral ischemia. This patient was treated for a large aneurysm of the left internal carotid artery by a trapping procedure consisting of occlusion of the in-

ternal carotid artery in the neck followed by application of a clip on the artery intracranially distal to the aneurysm. A cervical sympathetic block was performed shortly after the onset of the stroke. In spite of the fact that any undue constriction of the arterial tree secondary to placing of the clip on the artery should have subsided before this time and in spite, also, of the unavailability of the collateral flow from the external carotid via the ophthalmic artery, immediate improvement occurred. Furthermore, additional improvement followed each of several subsequent blocks. This satisfactory response to sympathetic blocks must have been due largely, if not entirely, to improvement of the circulation to the ischemic portion of the brain in the distribution of the middle cerebral artery by increase of the collateral blood flow through the anastomotic relations between the major cerebral arteries in the pial plexus and within the substance of the cerebral hemisphere. The rationale of this phase of treatment for acute focal cerebral ischemia has been discussed in previous communications.[8-10]

Potential Therapeutic Programs

At present, depending upon the beliefs of the attending physicians, attacks of focal cerebral ischemia (minor strokes) are treated by one or several of the following general therapeutic measures: (1) general supportive measures, (2) interruption of sympathetic impulses, (3) removal of atheromatous plaques or other obstructive lesions, (4) administration of anticoagulant drugs, and (5) administration of vasodilator medication, such as nitroglycerine or nicotinic acid. Acute focal cerebral ischemia with incipient cerebral softening (major stroke) is usually treated in the same way except that anticoagulant drugs apparently are given relatively uncommonly.

The critical problem in major or minor strokes is to improve the blood supply to the ischemic area of the brain as quickly as possible. The general intracranial blood flow may be improved by placing the patient in the supine position with the head lower than the feet, by administration of hypertensive drugs or by transfusion of blood if the peripheral blood picture indicates some type of anemia. More direct therapy consists of improving the circulation to the ischemic segment by (1) improving the direct circulation by removal of an atheromatous plaque or other obstructive lesion or (2) improving the collateral circulation by sympathetic blocks or sympathectomy.

It is urged that a cervical sympathetic block be performed as soon as the diagnosis of a major stroke has been made. Then, if a satisfactory Horner's syndrome is produced, one undoubtedly has improved the blood supply to the ischemic portion of the brain. Carotid angiography should be performed as soon as possible unless there is some contraindication to the procedure. If partial or complete occlusion of the carotid system is demonstrated, the appropriate vascular procedure should be performed without delay. If complete block of the carotid system has been demonstrated by angiography and at operation no back-flow of blood is obtained, superior cervical ganglionectomy should be performed. A series of cervical sympathetic blocks may be performed if both vascular surgery and sympathectomy seem contraindicated.

Obviously, the appropriate general therapeutic procedures, as well as the more definitive measures, should be instituted without delay. Delaying treatment even a few minutes may result in irreparable damage to the brain with consequent permanent neurologic deficit.

Summary

Severe neurologic deficits undoubtedly can be prevented in many patients who have suffered an attack of acute focal cerebral ischemia if definitive treatment is instituted promptly. Angiography is important for proper evaluation if the patient is considered a candidate for vascular surgery, in order to improve the direct circulation to the ischemic area. Apparently, a clinically significant degree of obstruction of blood flow by a surgically

amenable lesion can be expected to be demonstrated in a relatively large percentage of such patients. A significant increase in the blood supply to the ischemic part of the brain can be obtained most quickly via collateral channels by cervical sympathetic block if occlusion of the carotid system is complete. If the blood flow through the carotid vessels is partially obstructed, sympathetic block may increase the direct blood flow to the tissues by relaxing concomitant vasospasm. Sympathetic blocks or superior cervical ganglionectomy may constitute the definitive treatment if a vascular surgical lesion is not demonstrated or if complete block of the carotid system is present distal to the primary obstruction, as indicated by absence of back flow of blood from the internal carotid artery at operation. If vascular surgical procedures and sympathectomy seem contraindicated, anticoagulant and vasodilator medication may prove beneficial.

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Cause of Yellow Fever

If we study attentively the physical conditions which seem to influence the development of Yellow Fever in New Orleans, we shall find that this disease makes its appearance towards the close of summer or in the beginning of autumn, when the days are excessively hot, and the nights quite cool. Being once produced the disease rages for an uncertain period, and does not disappear until after a killing white frost. Let us endeavor to explain this fact. During the months of May, June, and July the turbid and stagnant waters which surround the City, being heated by a burning sun, evaporate in consequence of the temperature of the air . . . The stratum of air becoming saturated, soon ascends . . . hence it follows that at a certain height, the air becomes completely saturated with aqueous vapour.

Should this temperature be diminished in any manner, the watery vapour must be condensed in the same proportion, and descend to the surface of the earth. Having premised this, is it not reasonable to admit that those substances, those miasms, formed by the decomposition of certain bodies . . . will descend again when the temperature is lowered, in the form of fine watery particles or mist and be diffused everywhere? These deleterious exhalations must then exercise an unfavorable influence on human health.

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Financial Aid For Low Income Families With Children Having Special Medical Needs

• The work of the State Department of Public Welfare in providing special medical services to dependent children of employable fathers, when these needs cannot be taken care of by low family incomes, is outlined by the authors.

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General Information

CERTAIN families are able to provide for their food, clothing, shelter and ordinary medical care needs; other families are not able to provide completely for any of these. In both instances the family is eligible for state help if a severe expensive illness or handicap of a child ensues and the family, because of insufficent family income, or lack of community resources, is unable to provide the medical care the child needs.

When the medical care needs exceed the ability of the family and community to take care of them, the State Department of Public Welfare will provide financial assistance. The program which meets this need is known as the "General Assistance Ill or Handicapped Child Program."

History

Americans traditionally have been interested in the welfare of dependent children. The methods of providing for these children have varied considerably. In most systems used the goal was to provide food, clothing, and shelter. Medical needs existed, but it was not until the passage of the Social Security Act of 1935 that provision really began to be made for the medical needs of children. Federal grants-in-aid to states under the Social Security Law and its amendments are providing for more dependent children through state welfare services and when state welfare programs for children are properly operated they offer the children a more natural, normal type of environment in which to develop.

The Child Welfare Program in Louisiana provides services to dependent and neglected children most of whom are in the temporary custody of the Department of Public Welfare. Louisiana's Aid to Dependent Children Program provides for dependent children deprived of parental support because of the death, continued absence or incapacity of one of the parents.

There are, in Louisiana, today a large number of children of employable fathers who live in the home but who are unable to provide for the needs of their children. While employable, these fathers, because of limited education, limited work experience, lack of marketable skills, and limited job opportunities commensurate with their abilities are unable to provide their families with even the low standard of living established for those families who are eligible for public assistance.

Correction of the basic factors causing this unwholesome situation is needed. This is a long-time job, however, since it involves education of a generation of people and provision for the current generation until, because of attrition, this generation no longer exists and requires support. The financial assistance and services rendered should help build, not destroy, character. To accomplish this, society should not support, in full, these families, but should expect the employable father to earn to the extent of his capacity while society supplements his earned income to the extent of assuring that his family's basic

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needs are met once society has assured the worker of a just wage. Many thousands of families exist in unbelievable poverty, misery, starvation, filth, inadequate housing, ill health and community dependency. These conditions, in turn, are breeding like conditions and future generations of dependent people.

The people of Louisiana, through the State Department of Public Welfare's General Assistance Ill or Handicapped Child Program, are attempting to provide for the medical needs of the seriously disabled children of these families. The medical needs of many eligible children are unmet because the professional people who care for these children are unfamiliar with the possibilities of this Program.

This Program was established in 1954. It resulted from the appeal, in 1953, of a working father for help in meeting the cost of the expensive diet of his child ill with celiac disease. The Department was without authority to provide the help requested. The community came temporarily to the aid of the family. In the meantime, the local legislator became interested and prepared and introduced to the Legislature a bill providing that the Department of Public Welfare establish a program to meet the immediate needs of indigent persons. This bill passed both Houses of the Legislature but was vetoed by the Governor because it failed to establish adequate controls. An agreement, however, was entered into to request the State Welfare Board, through its rule-making authority, to establish programs to meet the immediate needs of indigent persons.

In 1954, the Department of Public Welfare implemented State Welfare Board policy by establishing, as a special part of its General Assistance Program, a procedure whereby the special medical needs of children can be met under certain circumstances. This GA Ill or Handicapped Child Program provides only for the special needs of children when there is no other family, governmental or voluntary resource which can provide the care or help needed.

Method of Operation

An application for assistance may be made to the Parish Department of Public Welfare by the person responsible for the care of any child with a serious, continuing illness or handicap, provided treatment requires a special diet or special medical care and these cannot be obtained in any other way. The Parish Department of Public Welfare investigates, collects all available medical and socio-economic information and prepares a family budget. The standards for each item of need in the budget are the same as used by the Department of Public Welfare for its General Assistance Program. If the family budget shows a deficit, the Department of Public Welfare may allow a money payment to cover the cost of the needed physician's services, medications, appliances, prosthesis, special diet and transportation to a treatment center.

If it is determined that the family qualifies for the General Assistance Program, except that the father is employable and living in the home, the socio-economic and medical data is forwarded to the State office in Baton Rouge where it is reviewed by the Bureau of Medical Services and the Bureau of Public Assistance. Medical Services determines if a serious handicap or illness which requires a special diet or special medical care exists. If the Bureau of Medical Services accepts the child as meeting the medical criteria established for participation in this program, the Bureau of Public Assistance reviews the data to confirm that all of the nonmedical conditions of eligibility are met. When accepted for assistance the family is so advised through the parish Welfare office. Only the child's special medical needs are provided for by public assistance. Each case is reviewed periodically by the Bureau of Medical Services. The handicap determines the periodicity, but, in no instance, does the interval between medical reviews exceed one year. The parish office, at least once a year, reviews the case to be certain that the nonmedical conditions of eligibility are being met.

1956 Study of GA Ill or Handicapped Program Participants

In January 1956, in preparation for the "First Louisiana Conference on Handicapped Children," the Department of Public Welfare made a study of the children currently being assisted through the GA Ill or Handicapped Child Program. The study revealed that 60 children were being currently assisted. However, the number of children being helped was found to vary from month to month. Of the 60 children being helped, the records of 50 representing 46 families were reviewed by the Director of the Bureau of Public Assistance. Medications and/or professional fees were provided for 41 children, special diets for 17, and transportation to and from a medical facility for 22. These children were referred to the Department of Public Welfare for help by private physicians, state hospitals or institutions, Crippled Children's Services, and other agencies. The diagnoses of the 50 children studied are interesting. Eleven were handicapped with cardiac disease; 8 had had rheumatic fever; and 3 had congenital heart disease; 5 had epilepsy; 6 tuberculosis; 5 orthopedic defects; and 4 diabetes. Other diagnoses included cerebral palsy, sickle cell anemia, hemophilia, malnutrition, worms, nutritional anemia, nephritis, nephrosis, and cirrhosis of the liver. Some of the children had incurable conditions but others were obviously being benefitted because of the help they were receiving through the GA Ill or Handicapped Child Program.

The other children in the family also benefitted from the help given the ill or handicapped child. Brothers and sisters of a child with a serious continuing illness frequently are deprived to provide for the needs of the sick child. This program assists the parents so that they may provide better for the needs of all their children.

As one reviews the records of these families he is impressed with the low average monthly income and the large number of children of these families. About 20 of the families had 5 or more children. For these families the average monthly income ranged from $60 for a farm family of 9 to $189 for an urban family of 8 persons, 4 of whom had tuberculosis.

1957 Study of GA Ill or Handicapped Program Participants

In September 1957, a study of the medical and social characteristics of the entire GA Ill or Handicapped Child caseload was made. The source of information for this study was the case records on file in the State office. Representing 128 families, 144 children were being helped at the time of the study. One hundred and nineteen (92.9 per cent) of the families had only one ill or handicapped child receiving help. Nearly all of the families had additional children; the number of these ranged from 1 to 11 with an average of 4 for a family.

Approximately two-thirds of the ill or handicapped children were Negro. This is a marked disproportion to the number of Negro children in the same age group (less than 16 years) of the general population of Louisiana.

More than two-thirds of the children studied lived in small towns and villages or on farms. This residential pattern is the same as that for persons of similar ages in the total population.

The average age of the children was slightly less than 8 years. Those less than 6 years of age constituted 43.1 per cent of the study group. Only 31.2 per cent were 11 years of age or older.

As in 1956, a diversity of conditions accounted for the need for help. Diseases of the central nervous system accounted for the largest number with 20 children in this group. Congenital malformation of 19 and tuberculosis in 14 children were the next most common conditions causing the families to request help of the Department of Public Welfare. Four dianostic categories—birth injuries, allergies, diseases of the blood and diseases of the circulatory system—affected 12 children each. Diseases of the genito-urinary system accounted for the disability of 10 children. Mental and personality disorders, diseases of the bones and organs of

movement, poliomyelitis and other disabling conditions accounted for the help needed by the remaining children.

Only a relatively small proportion of children were bedbound (15.2 per cent) or confined to wheelchairs (3.4 per cent). Nearly 56 per cent of the children were fully ambulatory and an additional 13.8 per cent were partially ambulatory. About 20 per cent of the children were housebound.

Twenty-nine per cent (42 children) received treatment from two or more sources —the remaining 71 per cent (102 children) received treatment from only one source. The frequency of treatment ranged from one or more times weekly to about once every two months. About one-third of the children received treatment bi-monthly; only 16.2 per cent received treatment every two weeks or oftener.

At the time of the study, half of the children had been receiving assistance for twelve months or less; 31.9 per cent had received help for thirteen months to two years. Only one child had received help for longer than three years.

Nearly all of the fathers in the 128 families were employed. About one-half worked as farmers or farm laborers. Slightly more than 12 per cent were employed as unskilled laborers or service workers while 15 per cent were semi-skilled workers or craftsmen. For 15.6 per cent the occupation of the father is not known. Although shown in the parish office records it was not shown on the state office records from which this study was done.

Total income of the families ranged from none at all to $243 a month. The average income was $90 per average family of 6 persons. Total family need according to Department of Public Welfare standards averaged about $180 a month. The average family in this study, therefore, failed by about $90 a month to attain even the standard of living established by the Department of Public Welfare for those families in which the father is incapacitated or the mother is the sole support of her children. The public assistance grant to these families averaged only $27.63 a month in spite of the fact that these families failed to meet Welfare standards by $90 a month. This conforms to the intent of the program which is to provide only for the special medical needs of the child. One-third of the grants were approved for twelve months or over and about one-half for six to twelve months. The rest were approved for less than six months or for an indefinite period.

The largest single item for which a grant was given was for transportation to the treating facility. In 17 cases transportation was the only item provided. Medicine was provided for 116, special diets in 75, transportation in 72, physicians' fees in 46 and an appliance in one instance. Although physicians' fees were provided in 46 cases, 61 (42.3 per cent) of the children were being treated by private physicians. Thirty-three children (22.9 per cent) were being treated by the Crippled Children's Services of the State Department of Health.

Less than one-third of the families studied had received public assistance prior to certification in the GA Ill or Handicapped Child Program. Among these families who had previously received aid, more than 7 out of 10 had been certified for participation in the State's Aid to Dependent Children Program.

Current Status of Program

In September 1958, only 70 cases, of the 144 who received help in September 1957, were still receiving help through the GA Ill or Handicapped Child Program. The total caseload in this program, in September 1958, was 129 children of 110 families as compared to 144 children of 128 families a year ago. The average payment in September 1958, was $25.04 compared to $27.63 the previous year.

Case Illustrations

It is interesting that the child whose illness and need precipitated the establishment of this program is still receiving public assistance four years later.

Case No. 1.—This 6 year old child receives medical supervision from the pediatric service

of the New Orleans Charity Hospital. The child is now eating one regular meal a day but is still in need of a diet high in lean meat, protein milk, bananas, fresh orange juice, cottage cheese, apple sauce, and vitamin supplements. The family physician confirmed that the child is following a diet which by Departmental food standards costs $51.22 a month. In this child's family there are 8 persons. The family's budgetary deficit based on Department of Public Welfare standards for basic needs is approximately $100 a month if the child's medical needs are included in the budget. The goal in this case is restoration of this child to relatively normal health. She is improving and the outlook is hopeful.

Case No. 2.—Female, born February 1944. Mental defective with average of 2 convulsions a day without treatment. In addition, child has a speech impediment and the left arm and hand are small and she cannot close her hand freely. Apparently normal until 3 months of age when she had high fever and convulsions. Child's mother has been a patient in a mental institution since child was age 3 years. This is only child of that marriage. Father has established a stable nonlegal union with another woman. Has two stepchildren and three children from this union. Father is a share crop farmer. Family of eight live on crop income of $19.37 and wages of $7.50 per month. Family needs, based on welfare standards, amount to $198.50 a month. Income of $26.87 reduces family budgetary deficit to $171.63. As father is employable the Department of Public Welfare can meet only the medical needs of the child. These amount to $52.00 a month and include a high caloric-high vitamin diet, transportation for medical care, medications and physician's services. Receives care from private physician.

Case No. 3.—Male, born April, 1955. Diagnosis: Hypogammaglobulinemia, lower lobectomy left lung, bronchiectasis, multiple vitamin deficiency and anemia. The family are independent share crop farmers and day laborers. Attempted to provide for child's needs for two years before requesting assistance. Father, mother and 11 dependent children, ages 2 to 16 years in home. Father's earning amount to $83.04 a month. Family needs, based on welfare standards, amount to $305.50 a month. Income of $83.04 a month reduces family budgetary deficit to $222.46 a month. The medications, including gamma globulin, are being provided by the Lafayette Charity Hospital. Medical supervision is being provided by the Lafayette and New Orleans Charity Hospitals. As the father is employable, the Department can meet only the medical needs of the child. This amounts to $8.00 for transportation for mother and child to and from the Lafayette Charity Hospital. The last hospital report from the New Orleans Charity Hospital indicated that the bronchiectasis was greatly improved after the lobectomy, that the child could return to a normal diet and should receive a maintenance dose of gamma globulin once a month and remain under semi-monthly medical supervision.

Case No. 4.—Female, born July, 1954. Diagnosis: Nephrosis and primary tuberculosis. Child is middle child of five. Ages range from 2 to 21 years. This family of seven live in a two room home in an isolated rural area. Oldest boy is step-son of father. Father and mother are living in an unstable marital union. Both have children by previous marriages. Wife's son lives in household and helps support this family. He works as a laborer on a dairy. Earns $50. a month and shelter. Allows family to live with him. Father is a common laborer. Earns $30. a week. Has to pay $30 a month for support of children by previous marriage. Father provides groceries but no cash income to this family. Family income is $84 a month. Family needs, based on welfare standards, are $106 a month. As father is employable, the Department of Public Welfare can meet only the medical needs of the child. These amount to $20 a month at this time for a high caloric-high vitamin diet. Nephrosis and tuberculosis are now inactive. At one time this child's needs amounted to $32 a month. This included a high vitamin-high caloric diet, transportation to New Orleans Charity Hsopital for mother and child at monthly intervals and medications. This child is improved.

Case No. 5.—Five children, ages 2 to 12 years, receive assistance under this grant, 4 females, 1 male. Diagnosis: Tuberculosis. Family of 9 reside in an urban area. The mother has had tuberculosis and a pneumonectomy. She was hospitalized in a state tuberculosis hospital for twenty months, in 1955 and 1956. The mother and father were separated prior to and during her hospitalization, but after her discharge from the hospital, they were reconciled. During parents' separation Aid to Dependent Children assistance was given to mother for a while but when she refused to exhaust legal remedies to force husband to support the children, the grant was discontinued. Children went to live with relatives in and out of Louisiana and one child was placed in Foster Care. Children were returned to parents after reconciliation. The mother is a dependent, emotionally immature person. The father has been inconsistent in providing for the family throughout his life. The relationship between husband and wife is very tenuous. At present, the family lives in a housing project. The father earns an average of $200 a month. The family needs, based on welfare standards, are $296 a month. Income of $200 a month reduces the family budgetary deficit to $96 a month. As the father is employable, only the medical needs of the children

can be met. Medical supervision is provided by the New Orleans Charity Hospital. Only one child needs antituberculosis drugs at this time. Each of the children needs a high protein, high vitamin, high caloric diet and a multiple vitamin supplement. The welfare grant of $95 a month provides for the dietary needs of these children. Medications are provided by the hospital. Transportation is provided by the family. In addition to financial assistance, the Department of Public Welfare has done case work, through weekly contacts with family, in an effort to strengthen the relationship between the parents and to offer other services which might benefit the whole family.

The five cases presented above are typical of those which are presented to the Department of Public Welfare for assistance. The medical problem is usually just one of the multiple social problems facing low income families where the father because of lack of education, marketable skills, job opportunities and a fair return for his labor is unable to earn enough to meet even the basic needs of his family. Fortunately, the Department of Public Welfare can provide partial financial assistance to meet the continuing medical needs of any of his children should they have a serious continuing illness.

Agencies Providing Assistance To Children

Physicians frequently serve children who have needs beyond the ability of the physician to provide. It is very discouraging when this is so. The physician gives willingly of his time and knowledge, but the child needs medications, appliances, prostheses, bandages, medical supplies, eyeglasses, attendant care, physiotherapy and many other items and ancillary services which the physician and the family cannot provide. Unfortunately, these are often essential to the proper medical care of the child.

Today's physician has many helpers, however. There are agencies and organizations dedicated to the help of patients with all of the major and many of the minor chronic disabling disorders. Frequently where no specific organization to help exists, a civic or church group can be found which will accept temporarily the responsibility of providing for the child's unmet needs.

In Louisiana, the State Departments of Welfare, Health, Hospitals, Institutions and Education all offer certain services to ill or handicapped children. In addition, the voluntary social agencies and many of the civic and church groups also have programs designed to aid needy children. There is hardly a child whose needs cannot be provided for in Louisiana if one knows where to go for help and the family is willing to make the sacrifices necessary to help the child.

In each parish the Department of Public Welfare and the Health Unit usually maintain a file of the community and state resources. Information concerning these is available to those requesting such information.

Conclusion

Children, especially ill or handicapped children, are dependent on those around them to provide for many of their needs. The family of the sick child expect their family physician to refer them to the agencies and organizations which may help them. The greater his knowledge of resources, therefore, the more will he be able to help the children and their families who depend on him for medical care and supervision.

As one aid to children and to physicians, the Department of Public Welfare has established a program which provides financial aid to children of low income families when these children have special dietary or medical needs which the family cannot meet.

The child is expected to use a free resource whenever possible, but if the child is too ill or handicapped to travel to the free medical facility or the cost of transportation is greater than buying the needed medical service in the home community, then the family is expected to use the local physician of their choice.

This program is financed from revenues of the State sales tax. The money grant is to the family which, in turn, makes its own arrangements with the physician of its choice and pays him directly for his services.

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Editorial

Another Forand Bill--Creeping Socialism

Another version of the Forand bill was introduced in the House of Representatives on February 18. It was given the number H.R. 4700. It is similar in many respects to the bill by the same author in the 85th Congress when it was given the number H.R. 9467.* It is generally understood that it is introduced with vigorous AFL-CIO backing and is third in labor's list of legislative objectives for this Congress. The new bill, if enacted into law, would be an important step in creeping socialism, and could easily lead through successive similar increments of socialistic legislation to the ultimate achievement of the full program of compulsory federal sickness insurance and federal bureaucratic medicine.

The bill proposes to levy a payroll tax, beginning in 1960, of 3¼ per cent from each employer and employee, on the present base of $4800, with an increase to 4¾ per cent in 1969. With this two billion dollars or more, it would give one hundred and twenty days' free hospital and nursing home care, but with a maximum of sixty days' hospitalization per year, to approximately thirteen million eligible Social Security claimants, principally persons above age 65. In fifteen years this number of persons is expected to be twenty-two million. Payments will be made directly to hospitals, physicians, and nursing homes.

Under this arrangement of Social Security taxes a self employed person could be paying as much as $343 a year in 1969. These figures represent ¼ of a per cent above the previously indicated tax rate.

Governments operating other similar socialistic health programs have found that their cost was several times larger than the original estimates. It is probable that this payroll tax would have to be increased to cover the additional cost that would be involved. It is to be expected that there will be an increase in utilization of hospitals by the Social Security claimants, and this would limit the num-

ber of beds available for the acutely ill of all ages in the community.

In Saskatchewan, Canada, for example, the average person over 65 occupies a hospital bed 7.2 days a year. In the United States, the average person over 65 occupies a hospital bed 2.5 days a year.

The bill is a cleverly designed instrument proposing a political solution to a health problem. It is a health care bill developed by nonmedical people. It would provide the sixty days' free hospitalization to the thirteen million eligibles, the majority of whom would vote but would not have to pay the increased tax. It would create a needless and dangerous crowding of hospital space.

The program would be administered by the Secretary of Health, Education, and Welfare, who would set and enforce standards of health care under bureaucratic control. Such a law would do lasting harm to voluntary health insurance.

As bad as all these effects would be they are small in comparison to the danger of State Medicine. How near the danger is can be understood by consideration of the following enactments: In each election year since 1950, so called liberalizations of the Social Security law, which means increase in scope, have been enacted. Three years ago, disability payments were established for those eligible for Social Security past 50. Already there is a clamor for the age barrier to be removed. In addition to this, federal medical services provided for three and a half million uninsurable on Welfare programs. The Veterans Administration, during 1957, gave hospital care to a half million veterans out of twenty-two and a half million who might apply. Of those who were hospitalized, 85 per cent had nonservice connected conditions. Other federal services, such as the Public Health Service and Medicare, add additional thousands to those whose medical needs are met by tax money. State and municipal facilities increase the total.

Should the Forand bill be enacted into law it is a reasonable estimate that some forty-five to fifty million of our population will be receiving medical care provided by the taxpayer. Successive socialistic steps would be additional laws to include the veterans' families and remove the age limit on Social Security inclusions. Thus, by a process of gradual enactment, state bureaucratic and perfunctory medicine—all one and the same—would become established.

To meet the needs of this threatening situation, private insurance has set itself to provide hospitalization policies for those above 65. The A.M.A. has requested state organizations to promote Blue Shield coverage in the same group and at the same time suggested a proportionate reduction in fees for those so covered.

Private health insurance coverage among senior citizens receiving Social Security OASI benefits has jumped almost 100 per cent in six years. A recent government survey shows 43 per cent of this group have private health insurance, compared with 22.7 per cent six years earlier.

Accurate figures as to what further need there is in this field are not available. Interest in such coverage has become widespread. A few years ago study revealed that most hospital policies sold to individuals terminated at age 65. It is reported that at present at least ten large insurance companies offer policies which are guaranteed renewable for a lifetime. The Health Insurance Institute has estimated that 60 per cent of those past 65 who wanted insurance coverage would have it by 1960, and 75 per cent by 1965.

The labor leaders claim that these measures to provide medical care for those past 65 are insufficient and will continue to be "too little and too late." With the existence apparently of a majority in Congress previously committed to follow the dictates of labor, defeat of this bill and similar types of legislation will be difficult. Against its enactment are the American Medical Association, many private health insurance plans, groups representing many hospitals, nursing homes and dentists, and many stable business inter-

ests, who deplore the increase in "give away" legislation and the subtle trend towards socialism which they represent.

It is in the interests of each physician to get in contact with his representative, and also, to have his patients do the same. Consistent and widespread opposition should be sufficient to stop this additional effort to enact socialistic legislation.

Editorial: Dangers of the Forand "AFL-CIO" Bill H.R. 9467, J. La. State M. Soc. 110:28 (Jan.) 1958.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

DR. LAWSON HONORED

Dr. Edwin Hugh Lawson, one of our prominent doctors, was signally honored by the members of the Federation of State Medical Boards of the United States, at their Annual Meeting in Chicago, on February 7, by electing and installing him as their President for 1959, succeeding Dr. Wesley D. Richards of Pittsburgh, Pennsylvania.

Dr. Lawson is also serving as President-elect of the Southern Medical Association, having been elected to this high office by the members of the Southern Medical Association at their Annual Meeting in New Orleans last November.

These honors are well deserved and Dr. Lawson will acquit himself, as in the past, in a manner wholly meriting the confidence placed in him. We wish for you, Dr. Lawson, all possible success in the administration of these two offices of distinction.

PRINCIPLES OF PRACTICE
of the
American Congress of Physical Medicine and Rehabilitation

I affirm my devotion to the service of humanity and will do everything I can to merit the confidence and sacred trust of my patients. My responsibility to my patient is my first obligation.

I affirm my adherence to the "Principles of Medical Ethics" of the American Medical Association and my determination to practice the profession of medicine and the specialty of physical medicine and rehabilitation in accord with them.

I will stand ever ready to make available my skills, services, and knowledge to my colleagues and will cooperate with them so that advances in medical knowledge particularly in physical medicine and rehabilitation will be available to them and their patients.

I affirm my obligation to do my utmost to protect the profession, the specialty of physical medicine and rehabilitation, and the public against physicians deficient in moral character or professional competence.

I affirm that upon undertaking the care of a patient I shall not neglect him or discontinue my care without giving adequate notice.

I am free to choose whom I shall serve, but I will not solicit.

I will not dispose of my services under terms or conditions which

hinder or impair the free and complete exercise of my independent medical judgment and skill;

cause deterioration of the quality of medical care, and

permit the sale of my services by any hospital, corporation, rehabilitation center, or lay body, by whatever name called or however organized, not licensed to practice medicine.

I will not solicit nor accept a position which is occupied by another physiatrist without first consulting with that physiatrist.

I will not divide fees for professional medical services performed by me directly or indirectly with any other person.

I will not participate, directly or indirectly, in any program contrary to law or in any program for the rendering of professional medical services which is not under the direction and supervision of a licensed doctor of medicine.

We think these principles, if lived up to, would be a fitting creed for most any medical

organization to adopt, and we congratulate the Congress on the acceptance of said principles.

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President: Dr. M. J. Hair,, Lecompte
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IMPORTANT WARNING

The Louisiana State Medical Society has asked its members to warn parents against allowing infants to play with thin plastic bags such as those used by dry cleaning establishments to wrap cleaned garments. Quite a few small children have suffocated in recent weeks while playing with the lightweight plastic material.

An electrostatic charge works up in the plastic, causing it at times to literally "grab the face of the youngster through electrical attraction."

The American Medical Association reported that four infants suffocated in recent weeks in Phoenix, Arizona after their parents had given them the plastic bags as play-things.

Pediatricians and general practitioners should be particularly alert in advising parents against allowing young children to play with this plastic material.

The plastic bags are a relatively new innovation in the dry cleaning industry. They are used by some cleaners in place of the familiar paper protective bags which keep clothes from getting soiled while they are being transported from cleaning plants back to customers' homes.

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

HISTORY OF NEUROSURGERY IN WORLD WAR II FIRST VOLUME AVAILABLE

The first of two volumes on the history of neurosurgery in World War II was published in December. It is part of the monumental work on the **History of the Medical Department of the United States Army in World War II.** Editorial offices for the surgical volumes of the history are located at Tulane School of Medicine, and the editorial work is being done under a grant from the Office of the Surgeon General of the Army. Volume I deals with administrative considerations, which are recognized as of extreme importance in military medicine, and head injuries, and volume II, to be published late in the year, with injuries of the spinal cord and of the peripheral nerves. The first volume pays tribute to the extreme reluctance displayed by

neurosurgeons during the war to admit that any head injury was inevitably fatal. Among the numerous advances discussed at length are cranioplasty with modern agents, especially tantalum, the attention devoted to speech defects in aphasic patients, and the management of posttraumatic epilepsy. To date, eight volumes of the surgical portion of the history have appeared. The editors of the neurosurgical volumes are Dr. R. Glen Spurling, professor of neurosurgery at the University of Louisville School of Medicine, and Dr. Barnes Woodhall, professor of neurosurgery at Duke University School of Mediicne. Miss Elizabeth M. McFetridge is associate editor of the surgical volumes. Col. John Boyd Coates, MC, has editorial direction for all volumes of the History of the Medical Department.

FIFTY-THIRD ANNUAL MEETING THE OKLAHOMA STATE MEDICAL ASSOCIATION

This scientific and social function will be held at the Mayo Hotel, in Tulsa, Oklahoma, April 20 through 22, 1959. There will be no registration fee and the members of the Louisiana State Medical Society are invited to attend. Among the prominent speakers will be Dr. Isadore Dyer, Professor of Obstetrics and Gynecology, Tulane University School of Medicine, and Dr. William D. Davis, Associate Professor of Medicine, Tulane University School of Medicine.

For further information address the Tulsa County Medical Society, B 9 Medical Arts Building, Tulsa 19, Oklahoma.

16TH ANNUAL MEETING ASSOCIATION OF AMERICAN PHYSICIANS AND SURGEONS

The sixteenth annual meeting of the Assembly and Delegates of the Association of American Physicians and Surgeons will be held April 2, 3, 4, 1959, Hilton Hotel, Fort Worth, Texas. All sessions will be held at the Hilton Hotel, including the Board of Directors meeting on Wednesday evening, April 1 at 8:00.

Members and guests will be registered at the Hilton Hotel. **There is no registration fee.**

An invitation is extended to the ladies to attend all speaking sessions, the President's Luncheon and the Annual Banquet.

Dr. E. E. Anthony, Jr., of Fort Worth is annual meeting chairman.

COMING MEETINGS

The 1959 meeting of the American Goiter Association will be held in the Drake Hotel, Chicago, Illinois, April 30, May 1 and 2. The program for the three day meeting will consist of papers and discussion dealing with the thyroid gland, its physiology, pharmacology, pathology and therapy.

The American Venereal Disease Association will hold its annual meeting April 27 and 28, 1959, in the Auditorium of Johns Hopkins Hospital, Baltimore, Maryland, in cosponsorship with the United States Public Health Service of the Tenth Annual Symposium on Recent Advances in the Study of Venereal Diseases.

There will be an important meeting of the Sixth District Medical Society on March 24, at the Capital House Hotel, Baton Rouge. A symposium on early cancer will be held. Doctors John B. and Ruth Graham of Buffalo, New York will be guest speakers. All members are urgently requested to attend.

Four-Day Sectional Meeting for Surgeons and Nurses, The Queen Elizabeth Hotel, Montreal, Quebec, April 6-9. Doctors Harry S. Morton and Charles Edouard Hebert, Montreal, Local Chairmen for Surgeons Meeting, Miss Moyra Allen and Sister Denise Lefevre, Montreal, Local Chairmen for Nurses Meeting. Dr. Michael L. Mason, Secretary, 40 East Erie Street, Chicago 11, Illinois.

Annual Clinical Congress, American College of Surgeons, Atlantic City, New Jersey, September 28-October 2. Dr. Michael L. Mason, Secretary, 40 East Erie Street, Chicago 11, Illinois.

REFRESHER COURSES

A Series of Short Refresher Courses will be given during May and June 1959, by the Children's Hospital of Philadelphia and by the Graduate School of Medicine, University of Pennsylvania.

1. PEDIATRIC ADVANCES. May 25 through 29, 1959.

Conducted by the Staff of The Children's Hospital of Philadelphia. The curriculum will consist of clinics, demonstrations and panel discussions in selected aspects of contemporary pediatrics in which important advances are being made. NOTE: Interested physicians are urged to apply early, since total attendance is limited. Registration fee will be refunded if the registrant later finds it impossible to attend. TUITION: $115.00.

2. PRACTICAL PEDIATRIC HEMATOLOGY. June 1 through 5, 1959.

Conducted by Irving J. Wolman, M.D., Thomas R. Boggs, Jr., M.D. and other members of the Hematology Department of the Children's Hospital of Philadelphia. TUITION: $125.00.

The program on June 4 and 5 will be devoted to Problems of Blood Grouping, Neonatal Jaundice, Kernicterus and Exchange Transfusions.

Physicians may register for these 2 days only, if desired. TUITION: $50.00.

An illustrative collection of 25 abnormal blood and bone marrow slides has been prepared. These are available for purchase: $10.00 for registrants; $15.00 for non-registrants.

3. A POSTGRADUATE COURSE IN PRACTICAL PEDIATRICS for Physicians in Pennsylvania, New Jersey and Delaware.

Conducted by the Staff of the Children's Hospital of Philadelphia, Wednesday afternoons from 1:00 p.m. to 5:00 p.m., March 18 through June 4. TUITION: $100.00.

Inquiries should be addressed to Irving J. Wolman, M.D., Director of Post-Graduate Education, The Children's Hospital of Philadelphia, 1740 Bainbridge Street, Philadelphia 46, Pa.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next scheduled examinations (Part II), oral and clinical for all candidates will be conducted at the Edgewater Beach Hotel, Chicago, Illinois, by the entire Board from May 8 through 19, 1959. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

Candidates who participated in the Part I Examinations will be notified of their eligibility for the Part II Examinations as soon as possible.

The deadline date for the receipt of new and reopened applications for the 1960 examinations is August the first, 1959. Candidates may submit their applications at any time before that date.

For further information contact Robert L. Faulkner, M.D., Secretary-Treasurer, 2105 Adelbert Road, Cleveland 6, Ohio.

TULANE APPOINTS DR. BEAVER

Dr. Paul C. Beaver has been appointed the William Vincent Professor of Tropical Diseases and Hygiene at Tulane medical school. Dr. Beaver, formerly professor of parasitology, has been a member of the medical school faculty since 1945. Dr. Beaver succeeds Dr. Ernest Carroll Faust, who has reached retirement age but continues as field coordinator of the Tulane consultant program with the seven medical schools of Colombia, South America.

NO. 10 A.M.A. REVIEW BOOKLET RELEASED

The tenth annual publication of "Reviews of Medical Motion Pictures" is now available from the Film Library of the A.M.A. This publication is prepared by the Division of Communications, Department of Medical Motion Pictures and Television and contains reprints of all reviews published in The Journal A.M.A. during 1958.

LOUISIANA HEART ASSOCIATION ANNUAL MEETING APRIL 16-18

A special program for physicians will be conducted in conjunction with the Louisiana Heart Association's annual meeting in New Orleans April 16-18. The program for physicians will be held on Saturday, April 18, at the Roosevelt Hotel. According to the association, the agenda will cover many phases of cardiovascular diseases. On April 17, the association will conduct a special program for nurses at the Tulane University School of Medicine. There is no registration charge for the meeting.

GOVERNMENT HEALTH INSURANCE LOSING FAVOR IN ENGLAND

Contrary to expectations voluntary health insurance in England has not been eliminated by the government health insurance program.

In fact, the people of Great Britain are now purchasing voluntary health insurance at an increasing rate.

An examination of the 10-year British program has led a New York researcher to conclude that a government approach to health insurance is neither necessary nor desirable.

This is reported by J. F. Follman Jr., director, information and research, Health Insurance Association of America, in an article appearing in the Nov. 22 Journal of the American Medical Association.

In his report, the author said, "it would seem a truism that voluntary health insurance protection in the United States today is on much firmer ground than was the case in Great Britain prior to the formation of NHS."

NHS is the National Health Service which went into effect in 1948. Before government intervention, voluntary programs limited their coverage to loss of income due to accidents or illness. Little coverage was written in the way of hospital or medical cost insurance.

The purpose of NHS was to provide comprehensive medical care and services to all the people with the costs to be borne by funds derived from taxation (payroll deductions and general tax funds). The author said these services included hospital care, medical care given by a physician, dental care, ophthalmic care, and drugs and appliances.

He also cited four major reasons for the decline in interest in the government program and the sharp rise in contributions to the voluntary programs. These are:

—Continued increase of the cost of certain services provided under the government program. This is particularly true in the area of dental care, drugs, and optical appliances.

—Desire for private rooms which are not available under NHS.

—Limited number of government hospital beds. The author reports that at the end of

1956, it was estimated that 431,000 persons were on the NHS waiting list for hospital beds.

—Patients' lack of freedom of choice in the selection of surgeons, specialists, and consultants.

In conclusion, the author said, when one considers that health insurance in the United States is still growing rapidly, it would stand as a clear indication that a government approach on a broad population basis is neither necessary nor desirable.

RULES LISTED FOR PROTECTING CHILDREN FROM SEX PERVERTS

Nearly all sex offenders have one characteristic—timidity—that furnishes the most promising way to protect children from them, according to an American Medical Association publication.

Because the sex criminal is usually timid, he will leave a child alone if he is resisted by the child at the outset of an encounter. Seldom will he pursue a girl or boy unless the child goes along with what is suggested.

Thus the child must be taught to resist firmly but politely all invitations from strangers, Beatrice Schapper, New York City, said in the November Today's Health.

Teaching children to avoid situations that play into the hands of sex perverts is "one of the most delicate jobs parents face. But if you remember that sex offenders are generally timid the job becomes less difficult," the article said.

Most important is to make certain that children have a home where they feel loved, understood, and safe. Then they will come to their parents with anything out of the ordinary.

Children learn without harm other safety rules from their parents, and they can be taught to be cautious with strangers without being told all the horrible things that could happen.

For instance, a parent can combine admonitions such as "Look to the left and then to the right before starting across the street, and don't get in a car with a stranger."

The article listed some rules based on the recommendations of authorities and suggested that families work out their own list, expressing them in the youngster's own words. They are:

—Children should be told to report to parents, teachers, a policeman, storekeeper or other older persons any stranger who:

1. Asks a child to go anywhere with him—to a car, a private home, a movie, or for a walk. The child should say "no" politely and firmly.
2. Tries to talk with a child or touch him or his clothes in a theater. The child should tell an usher.
3. Tries to join children's games outside. Again, the man should be told "no" firmly but politely.
4. Offers candy or toys or a job with pay.

WOMAN'S AUXILIARY

TO THE LOUISIANA STATE MEDICAL SOCIETY

ORLEANS PARISH

Entertaining Wednesday afternoon, February 11, at the Orleans Club were the members of the Woman's Auxiliary to the Orleans Parish Medical Society. Mrs. William S. Neal registered the guests. Receiving in the drawing room with the president, Mrs. Albert William Habeeb, were the past presidents of the Auxiliary, Mmes. John S. Dunn, Edwin S. Socola, John Sanders, Boni J. DeLaureal, Spencer McNair, S. M. Blackshear, Francis E. LeJeune, Isadore Cohn, Jules Myron Davidson, Aynaud Hebert, J. W. Warren, Paul J. LaCroix, Robert Rougelot, Abe Golden and Eugene H. Countiss.

Miss Irene Ernst, Louisiana's Representative to the Brussels' World's Fair, was the guest speaker.

Alternating in presiding at the tea and coffee services during the tea hour were Mmes. Mercer Lynch, Branch J. Aymond, Shelly Gaines, Lucien Alexander, George Fruthaler, Lucien Delery, and Robert L. Simmons.

OUACHITA PARISH

The January meeting of the Woman's Auxiliary to the Ouachita Parish Medical Society was held with a luncheon at the Bayou DeSiard Country Club, Mrs. E. L. Carroll of Columbia, Louisiana presiding. The luncheon tables were attractively decorated with bronze and yellow mums, yellow candles, and green ivy. Mrs. Ralph Simpson served as chairman of the hostess committee, assisted by Mrs. Roy Ledbetter, Mrs. Ralph Talbot, Mrs. Roy Robertson, Mrs. J. W. Cummins and Mrs. A. L. Peters. Members and guests enjoyed a book review by Mrs. J. W. Schonlau, on "The History of Medicine in Louisiana," by the late Dr. Rudolph Matas.

Mrs. Branch J. Aymond, Chairman
Press and Publicity.

BOOK REVIEWS

The Pathogenesis of Coronary Occlusion; by A. D. Morgan, Springfield, Illinois, Charles C Thomas, 1957, Pp. 171, Price $8.50.

There has been an impressive increase in interest in the pathogenesis of atherosclerosis during the last decade and more particularly in the causes of occlusive disease of the coronary arteries. This greater concern has been more apparent in the number of papers dealing with biochemical alterations in affected subjects and in dietary studies than in further efforts to increase our understanding of the morphologic changes leading to occlusion. Indeed there is still considerable disagreement about how and why narrowing of the coronary arteries begins. The older conception of Rokitansky that intraluminal thrombosis is an important initiating mechanism in atherosclerosis has received considerable experimental support through the studies of Professor Duguid of the University of Durham.

Dr. Morgan's book is essentially a report of a detailed study of coronary arteries undertaken to test Duguid's ideas. Part one of the book consists of historical review of past work in the field. Part two presents in 100 pages and with 175 illustrations the author's own microscopic findings. His methods included the application of 6 different types of stain to serial sections of the affected arterial segments and examination of differently stained adjacent sections by means of two microscopes joined with a comparator eyepiece. The complex microscopic changes undergone by diseased coronary arteries are here presented with a degree of minuteness that will make the book of permanent value to the pathologist, but tedious enough to stall most clinicians. His studies have led the author to the conclusion . . . "that coronary occlusion, as distinct from the lesser degrees of coronary atherosclerosis, is the result of old or recent thrombosis, and that in this respect the coronary arteries differ from vessels of similar dimensions."

This reviewer believes that any pathologist called upon to interpret changes in coronary arteries will want this work on his shelf even should he disagree with the author's main conclusions, and clinicians interested in coronary disease will appreciate its availability for reference.

E. B. Ferguson, Jr. M.D.

The Dermatologist's Handbook; by Ashton L. Welsh, Charles C Thomas, Springfield, Illinois, 1957, Pp. 427, Price $15.00.

This valuable reference book brings together a large amount of information otherwise difficult to locate readily. It should be within easy reach of any one who treats skin disorders. Of particular interest is the section on dermatologic and systemic manifestations of reactions to therapeutic agents. In the next edition of this book, the structural formulas of the drugs listed should be given, for this would facilitate the recognition of possible cross sensitization.

V. J. Derbes, M.D.

Process of Psychotherapy, Vol. II; by Jules H. Masserman and T. L. Moreno, editors, New York, N. Y., Grune & Stratton, 1957, pp. 264, $7.50.

This volume is a compilation of various papers, many of which have been presented at meetings and some of which have been previously published. The list of contributors is impressive, and an essentially dynamic approach is utilized. Special emphasis is placed upon the problem of anxiety, and chapters on the stresses and techniques in later life are well developed. Interesting sections are concerned with various schools and trends in psychotherapy as well as development in psychotherapy in specific foreign countries. Many of the contributors deviate from orthodox views.

The attempt of this volume to present many theoretically diverse views is praiseworthy. It would seem to this reviewer that in attempting to present an eclectic viewpoint, proper emphasis has not been placed on dynamic concepts of personality development. This book is primarily intended for psychiatrists. Physicians other than psychiatrists, can find many other volumes that would be more practical and of interest to them.

Gene Usdin, M.D.

PUBLICATIONS RECEIVED

Grune & Stratton, Inc., N. Y.: Pulmonary Circulation, edited by Wright R. Adams, M. D., and Ilza Veith, Ph.D.; Industrial Carcinogens, by Robert E. Eckardt, M. D.

The C. V. Mosby Company, St. Louis: Physical Diagnosis; The History and Examination of the Patient, by John A. Prior, M. D., and Jack S. Silberstein, M. D.; Bone Tumors, by Louis Lichtenstein, M. D. (2nd edit.).

W. B. Saunders Co., Phila.: Vascular Surgery, by Geza de Takats, M. D.; Long-Term Illness, edited by Michael G. Wohl, M. D.; Practical Dermatology, by George M. Lewis, M. D. (2nd edit.); The Management of Fractures and Dislocations—An Atlas, Volumes I and II, by Anthony F. DePalma, M. D.; The Anatomy of the Nervous System; Its Development and Function, by Stephen Walter Ranson, M. D., revised by Sam Lillard Clark, M. D. (10th edit.); Diseases of the Colon and Anorectum, Volumes I and II, edited by Robert Turell, M. D.

Charles C Thomas, Publisher, Springfield, Ill.: Vascular Spiders and Related Lesions of the Skin, by William Bennett Bean, M. D.



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1. Landes, R. P. and Peters, M.: Postgrad. Med. 23:648, June 1958.

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1. Wright, W. T., Jr.; Pokorny, C., and Foster, T. L.: Kansas M. Soc. *57*:410, 1956. 2. Gilchrist, A. R.: Brit. M. J. *2*:1011 (Nov. 3), 1956. 3. Terman, L. A.: Illinois M. J. *3*:67, 1957.

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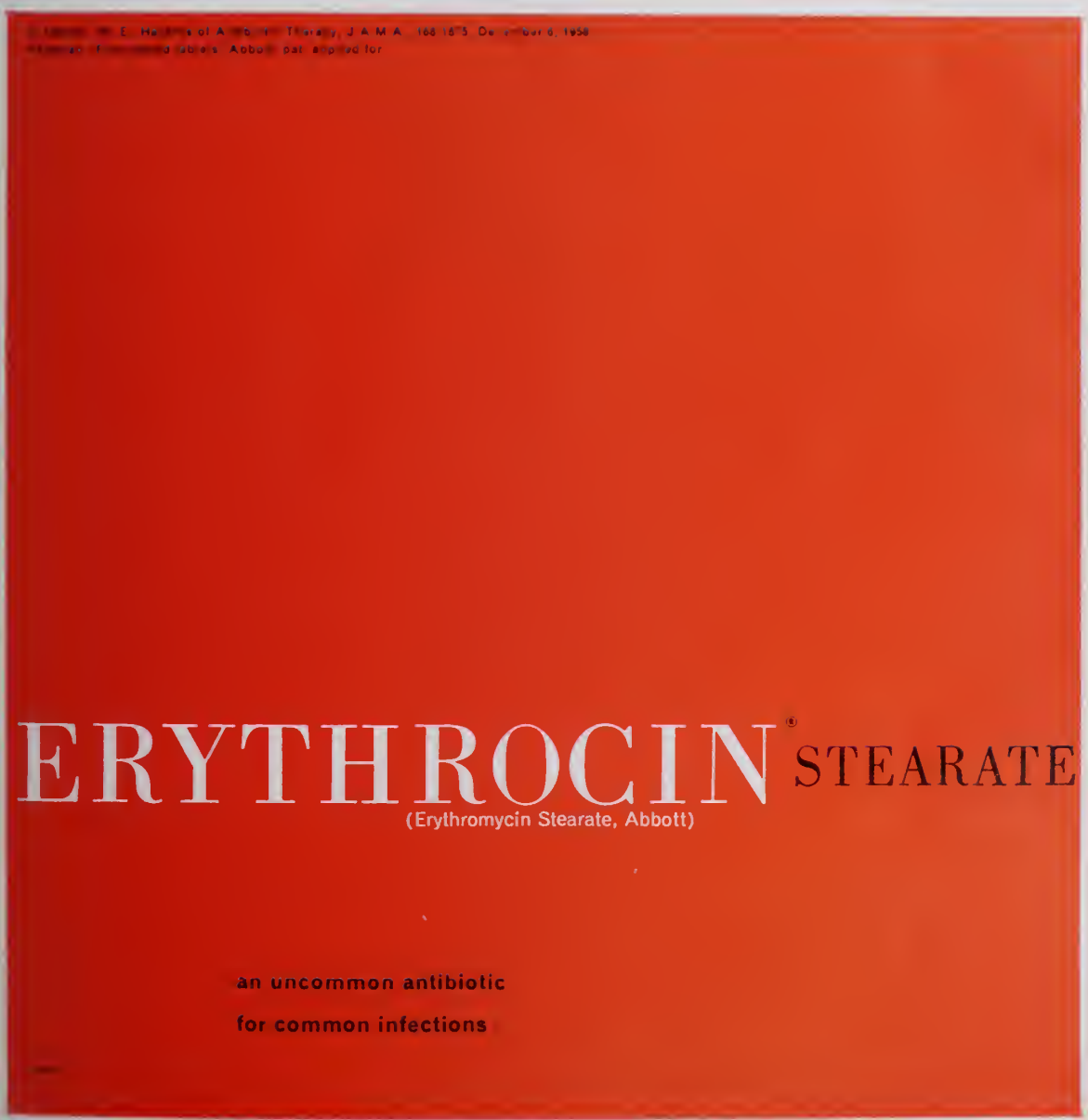
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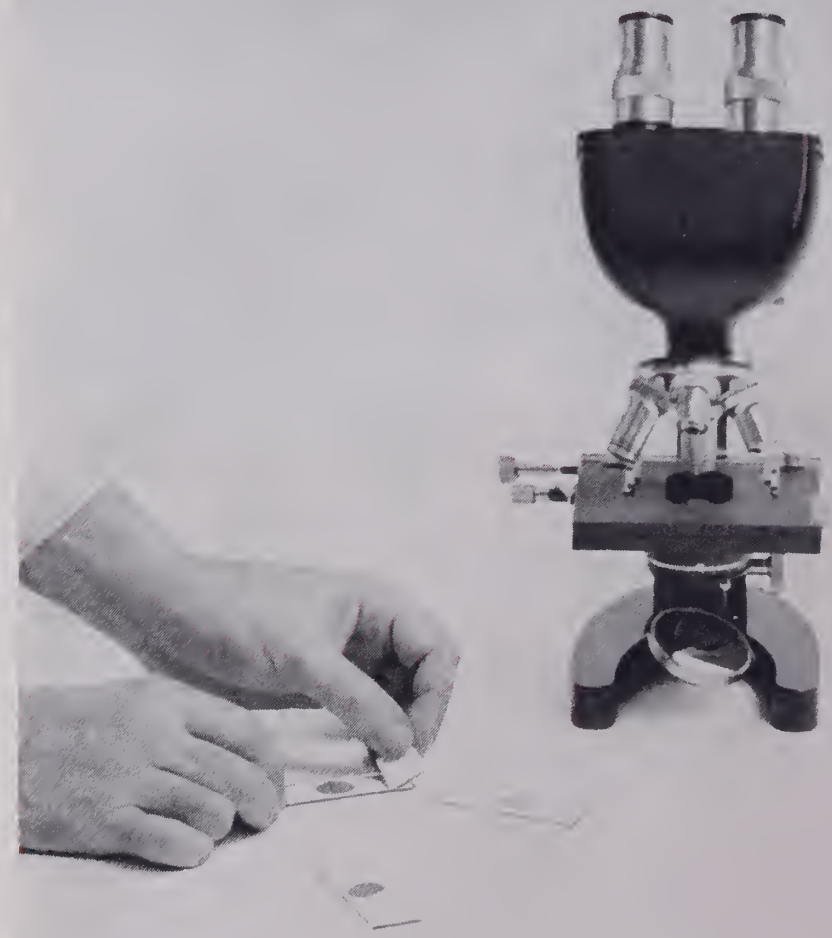
Supported by an unparalleled safety record—During all the years ERYTHROCIN has been prescribed, serious reactions have been practically nonexistent. Unlike penicillin, allergy is no problem. And, in contrast to "broad spectrum" action, the normal intestinal flora is virtually unaltered with ERYTHROCIN therapy. And only recently, a well-known investigator said, "Erythromycin is by far the least toxic of the commonly used antibiotics."

Offers bactericidal action—Unlike broad-spectrum antibiotics, ERYTHROCIN is classed as a bactericidal agent. It offers lethal action against common coccic invaders—resulting in prompt clinical responses.

Provides convenient dosage forms—Usual adult dose is 250 mg. four times daily. Children's dosage is reduced in proportion to body weight. ERYTHROCIN comes in Filmtabs® (100 and 250 mg.), bottles of 25 and 100. Also, in oral suspension and for intramuscular and intravenous use. Abbott



for those penicillin-sensitive organisms



The Higher Blood Levels of Potassium Penicillin V

COMPOCILLIN-VK Indications—Against all organisms sensitive to oral penicillin therapy. For prophylaxis and treatment of complications in viral conditions. As a prophylaxis in rheumatic fever and in rheumatic heart disease.

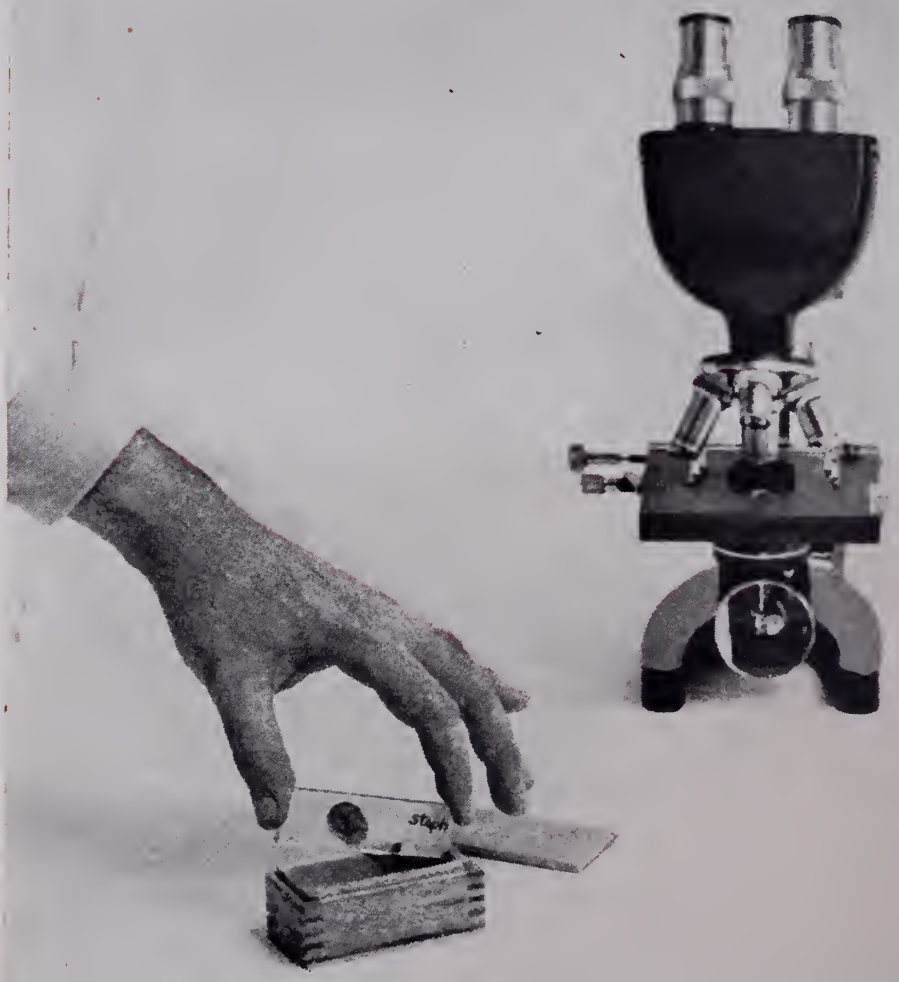
COMPOCILLIN-VK Dosage—Depending on the severity of the infection, the usual adult dose is 125 mg. to 250 mg. (200,000 to 400,000 units) every four to six hours. For children, dosage may be reduced in proportion to body weight.

COMPOCILLIN-VK Supplied—In Filmtabs, 125 mg. (200,000 units), bottles of 50 and 100; 250 mg. (400,000 units), bottles of 25 and 100. For oral solution, COMPOCILLIN-VK comes in 40-cc. and 80-cc. bottles. When reconstituted with water, each appealing (it's a clear red solution) 5-cc. teaspoonful represents 125 mg. (200,000 units) of potassium penicillin V.

Abbott



against serious and resistant coccal infections



An Important Lifesaving Antibiotic

The dramatic story of SPONTIN can never really begin to be told.

In little more than a year, this potent antibiotic has compiled an incredible record for saving lives—and often, after all other therapy had failed. Majority of successes involved patients critically ill with staphylococcal infections—conditions that had resisted all other known antibiotic therapy.

Meanwhile, careful attention to dosage recommendations has practically eliminated toxicity and side effects as serious obstacles to therapy. Also, recent improvements have been made in the manufacture of SPONTIN; the drug is now made from pure crystals.

So far, SPONTIN has proved to be a good answer, perhaps the best answer to the resistant staphylococcal problem—and of real value in other serious coccal infections.

Abbott

1. Sixth Annual Symposium on Antibiotics, Washington, D. C., Oct. 15, 16, 17, 1958.

Crystallized

SPONTIN®

(Ristocetin, Abbott)

Prepared from pure crystals

Provides Outstanding Clinical Effectiveness Against Coccal Infections, Including Resistant Staphylococci and Enterococci[1]

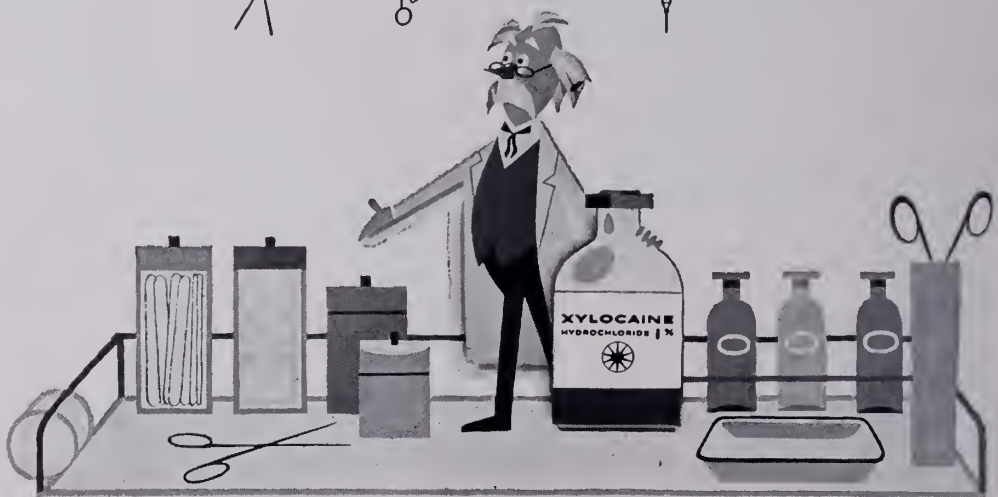
Provides Bactericidal Action Against Coccal Infections[1]

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ELECTIVE AND TRAUMATIC

use XYLOCAINE *first...*
as a local anesthetic
or a topical anesthetic

SWAB SPRAY INFILTRATION NERVE BLOCK



Xylocaine HCl solution, the versatile anesthetic for general office surgery, relieves pain promptly and effectively with adequate duration of anesthesia. It is safe and predictable. Local tissue reactions and systemic side effects are rare. Supplied in 20 cc. and 50 cc. vials; 0.5%, 1% and 2% without epinephrine and with epinephrine 1:100,000; also in 2 cc. ampules; 2% without epinephrine and with epinephrine 1:100,000.

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(brand of lidocaine*)

Astra Pharmaceutical Products, Inc., Worcester 6, Msss., U.S.A.

PDR

*U.S. PAT. NO. 2,441,498 MADE IN U.S.A.



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THERAPY for the menopause syndrome should relieve not only the ychic instability attendant the conion, but the vasomotor instability estrogen decline as well. Though y would have a hard time explainit in such medical terms, this is reason women like "Premarin." The patient isn't alone in her devotion to this natural estrogen. Doctors, husbands, and family all like what it does for the patient, the wife, and the homemaker.

When, because of the menopause, the psyche needs nursing—"Premarin" nurses. When hot flushes need suppressing, "Premarin" suppresses. In short, when you want to treat the whole menopause, (and how else is it to be treated?), let your choice be "Premarin," a complete natural estrogen complex.

"Premarin," conjugated estrogens (equine), is available as tablets and liquid, and also in combination with meprobamate or methyltestosterone.

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The Story of Kent

How Lorillard research produced a cigarette with less tars and nicotine than any other leading filter brand



A major research foundation, under Lorillard sponsorship, determined that the average puff of cigarette smoke contained over 12 billion semi-solid particles. Further research revealed that inhaled smoke from ordinary cigarettes has a predominant proportion of particles, from 0.1 to 1 micron in diameter, average 0.6 micron.

Ordinary filter fibers are so large that they create spaces through which the small semi-solid smoke particle can easily pass. However, in the superior Kent filter, the fibers are mechanically manipulated in such a manner as to create extremely tortuous passageways for the smoke. This is the "MICRONITE" Filter.

The Kent filter is composed of pure cellulose acetate, which is common to the filters used in all leading brands. However, the physical construction of the Kent filter is the exclusive development of Lorillard research, and is different from and superior to all the rest.

Thus, Lorillard research created a filter of ideal purity, with extraordinary ability to eliminate smoke particles... and at the same time, a cigarette of such fine taste that during the past twelve months more smokers changed to Kent than to any other cigarette in America.

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If you would like for your own use the booklet, "The Story of Kent," write to:

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ANNOUNCING

the first "wide range" antihypertensive

MILD MODERATE SEVERE

DIUPRES*

DIURIL® WITH RESERPINE

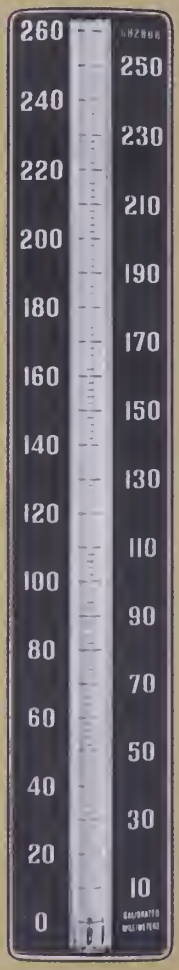
more hypertensives can be better controlled
with DIUPRES than with any other agent
. . . with greater simplicity and convenience

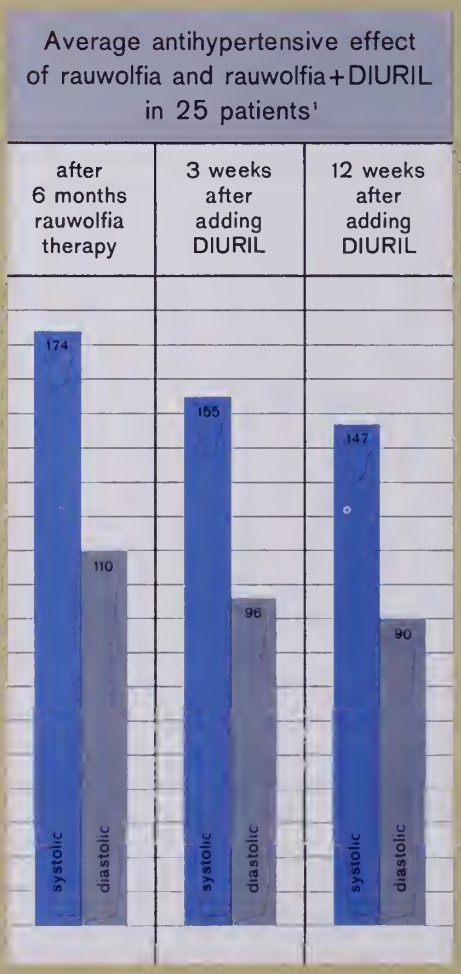
a logical alliance of two antihypertensives you know and trust provides

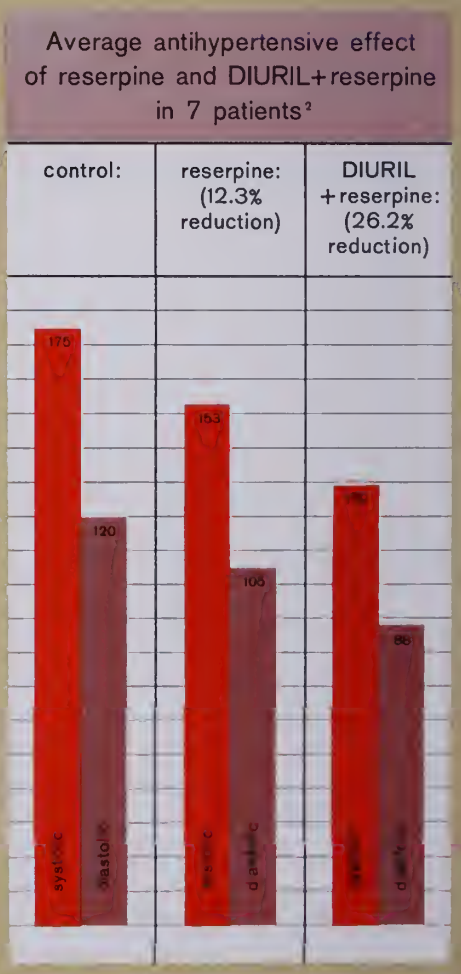
increased effectiveness, decreased side effects

potentiated effect

DIUPRES produces an effect greater than either DIURIL or reserpine alone. It is effective in many patients who respond inadequately or not at all to either DIURIL or reserpine.







DIUPRES

DIURIL® WITH RESERPINE

effective therapy for most patients

DIUPRES by itself usually provides effective therapy for a majority of patients with mild or moderate hypertension, and even for many patients with severe hypertension. Many patients now treated with other agents which frequently cause distressing side effects can be adequately managed with well tolerated DIUPRES.

provides basic therapy

Should other drugs need to be added to DIUPRES, they can be given in much lower than usual dosage so that their side effects are often strikingly reduced.

rapid onset of effect

The antihypertensive action of DIUPRES is rapidly evident. (Considerable time may elapse before the antihypertensive effect of reserpine alone is observed.)

fewer and less severe side effects

DIUPRES may be expected to cause fewer and less severe side effects than are encountered with other antihypertensive therapy. (Since DIURIL and reserpine potentiate each other, the required dosage of each is usually less when given together as DIUPRES than when given alone. Such reduction in dosage makes side effects less likely to occur.)

often obviates weight gain

DIUPRES minimizes the problem of weight gain seen with reserpine (reserpine alone has been reported to produce weight gain in 50 per cent of patients).[1,4]

virtually eliminates fluid retention

DIUPRES is not likely to cause either clinical or subclinical retention of sodium and water. (Hypotensive drugs, particularly rauwolfia[5] and hydralazine,[6] may cause fluid retention. Even when such retention is subclinical, their antihypertensive effectiveness is diminished.[6])

diet more palatable

With DIUPRES, there is less need for rigid restriction of dietary salt, which patients find so burdensome.

> *"It may well be that the drug* [DIURIL] *produces the benefits of a markedly restricted low sodium diet but without its hardships."*[3]

subjective and objective improvement

DIUPRES allays anxiety and tension, thus reducing the emotional component of hypertension. Organic changes of hypertension may be arrested and reversed. Headache, dizziness, palpitations and tachycardia are usually promptly relieved by DIUPRES. When the *anginal syndrome* accompanies hypertension, the administration of DIUPRES may also cause diminution or even disappearance of this syndrome concurrent with control of the hypertension.

convenient, controlled dosage

Instead of two separate prescriptions, you write one prescription . . . the patient takes one tablet, rather than two different tablets . . . and the dosage schedule is easier for the patient to remember and follow.

> *"patients have fewer lapses and make fewer mistakes in dosage, the simpler the regimen can be made. Therefore I do not hesitate to use more than one medicament combined in one tablet, provided this gives approximately the correct dosage of each."*[6]

economical

DIUPRES will cost the patient less than if he were given two separate prescriptions for its components.

Indications:

DIUPRES is indicated in hypertension of all degrees of severity. It can be used in the following ways:

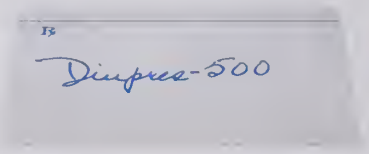
- as total therapy
- as primary therapy, adding other drugs if necessary
- as replacement or adjunctive therapy in patients now treated with other agents

Precautions:

The precautions normally observed with DIURIL or reserpine apply to DIUPRES. Additional information on DIUPRES is available to physicians on request.

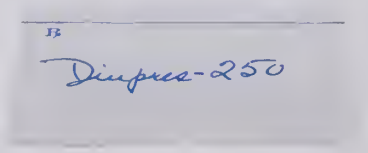
Recommended dosage range:

DIUPRES-500—one tablet one to three times a day.
DIUPRES-250—one tablet one to four times a day.
If necessary, other agents may be added.
If the patient is receiving ganglion blocking agents or hydralazine, their dosage should be cut by 50 per cent when DIUPRES is added.



DIUPRES-500

500 mg. DIURIL (chlorothiazide), 0.125 mg. reserpine.
Bottles of 100, 1000.



DIUPRES-250

250 mg. DIURIL (chlorothiazide), 0.125 mg. reserpine.
Bottles of 100, 1000.

the first "wide range" antihypertensive

DIUPRES

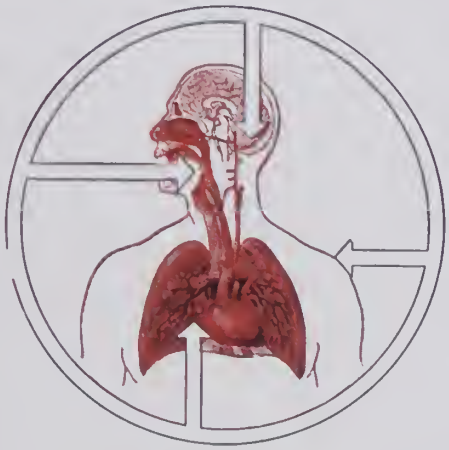
DIURIL® WITH RESERPINE

1. Rochelle, J. B., III, Bullock, A. C., and Ford, R. V.: Potentiation of antihypertensive therapy by use of chlorothiazide, *J.A.M.A.* 168:410, Sept. 27, 1958. 2. Freis, E. D., Wanko, A., Wilson, I. M., and Parrish, A. E.: Treatment of essential hypertension with chlorothiazide (Diuril), *J.A.M.A.* 166:137, Jan. 11, 1958. 3. Freis, E. D.: Treatment of hypertension. (Presented at the Annual Meeting of Southern Medical Association, Nov. 13, 1957.) 4. Moyer, J. H., Dennis, E., and Ford, R.: Drug therapy (Rauwolfia) of hypertension, *A.M.A. Arch. Int. Med.* 96:530, Oct. 1955. 5. Perera, G. A.: Edema and congestive failure related to administration of rauwolfia serpentina, *J.A.M.A.* 159:439, Oct. 1, 1955. 6. Wilkins, R. W.: Precautions in use of antihypertensive drugs, including chlorothiazide, *J.A.M.A.* 167:801, June 14, 1958.

MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

*DIUPRES and DIURIL (chlorothiazide) are trademarks of Merck & Co., Inc

Now—All cold symptoms can be controlled



Provides Triaminic for more complete and more effective relief from nasal and paranasal congestion because of systemic transport to *all* respiratory membranes—without drawbacks of topical therapy.†

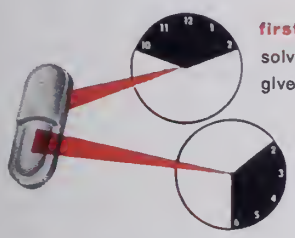
Provides well-tolerated APAP (N-acetyl-p-aminophenol) for prompt and effective analgesic and antipyretic action to make the patient more comfortable.

Provides Dormethan (brand of dextromethorphan HBr) for non-narcotic antitussive action on the cough reflex center in the medulla—as effective as codeine but without codeine's drawbacks.

Provides terpin hydrate, classic expectorant to thin inspissated mucus and help the patient clear the respiratory passages.

†Lhotka, F. M.: Illinois M. J. 112:259 (Dec.) 1957. Fabricant, N. D.: E. E. N. T. Monthly 37:460 (July) 1958. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

Special "timed release" design



first—the outer layer dissolves within minutes to give 3 to 4 hours of relief

then—the inner core releases its ingredients to sustain relief for 3 to 4 more hours

also available for those patients who prefer liquid medication: **Tussagesic suspension**

Each TUSSAGESIC tablet provides:

TRIAMINIC®	50 mg.
(phenylpropanolamine HCl	25 mg.
pheniramine maleate	12.5 mg.
pyrilamine maleate	12.5 mg.)
Dormethan (brand of dextromethorphan HBr)	30 mg.
Terpin hydrate	180 mg.
APAP (N-acetyl-p-aminophenol)	325 mg.

Dosage: One tablet in the morning, midafternoon and in the evening, if needed.

Tussagesic* *timed-release tablets*

Contains* **TRIAMINIC *to* STOP *running noses* *and open stuffed noses orally*

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In potentially-
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Panalba*
ALBAmycin**)
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road-spectrum
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f first resort
efective against more
an 30 common pathogens,
en including
sistant staphylococci.

JUST ONE TABLET DAILY



provides therapeutic sulfa levels for 24 hours... Highly soluble in acid and alkaline media... rapidly absorbed, producing fast, effective plasma-tissue concentrations sustained for the entire day. Simple, single 0.5 Gm. daily dose minimizes patient dosage confusion. At least equivalent to 4 to 6 Gms. daily of previous sulfonamides. Does not produce renal complications.[1]

with low incidence of sensitivity reactions... KYNEX is extremely low in toxic potential.[2,3] Cutaneous or other objective sensitivity reactions are rare, as demonstrated in a large scale evaluation of clinical toxicity.[2] Also minor subjective reactions are less likely to develop when the recommended dosage is used.[2]

Dosage: Adults, 0.5 Gm. (1 tablet) daily following an initial first-day dose of 1 Gm. (2 tablets).

TABLETS, 0.5 Gm., Bottles of 24 and 100.

also available—KYNEX Acetyl Pediatric Suspension, cherry-flavored, 250 mg. sulfamethoxypyridazine activity per teaspoonful (5 cc.). Bottles of 4 and 16 fl. oz.

1. Editorial, New England J. Med. 258:48, 1958.
2. Vinnicombe, J.: Antibiotic Med & Clin. Ther. 5:474, 1958.
3. Sheth, U. K., et al.: Ibid., p. 604, 1958.

for improved control

WHENEVER SULFAS ARE INDICATED

KYNEX®

Sulfamethoxypyridazine Lederle

Lederle **LEDERLE LABORATORIES,** a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York



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CLINICALLY PROVEN —prolonged relaxation of acute skeletal muscle spasm

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Summary of six published clinical studies:

ROBAXIN BENEFICIAL IN 92.4% OF SKELETAL MUSCLE SPASM CASES

	NO. PATIENTS	RESPONSE			
		"marked"	moderate	slight	none
Carpenter[1]	33	26	6	1	—
		"pronounced"			
Forsyth[2]	58	37	20	—	1
		"good"			
Lewis[3]	38	25	6	—	7
O'Doherty & Shields[4]	17	"excellent" 14	2	1	0
		"significant"			
Park[5]	30	27	—	2	1
		"gratifying"			
Plumb[6]	60	55	—	—	5
TOTALS	236	184 (78.0%)	34 (14.4%)	4	14

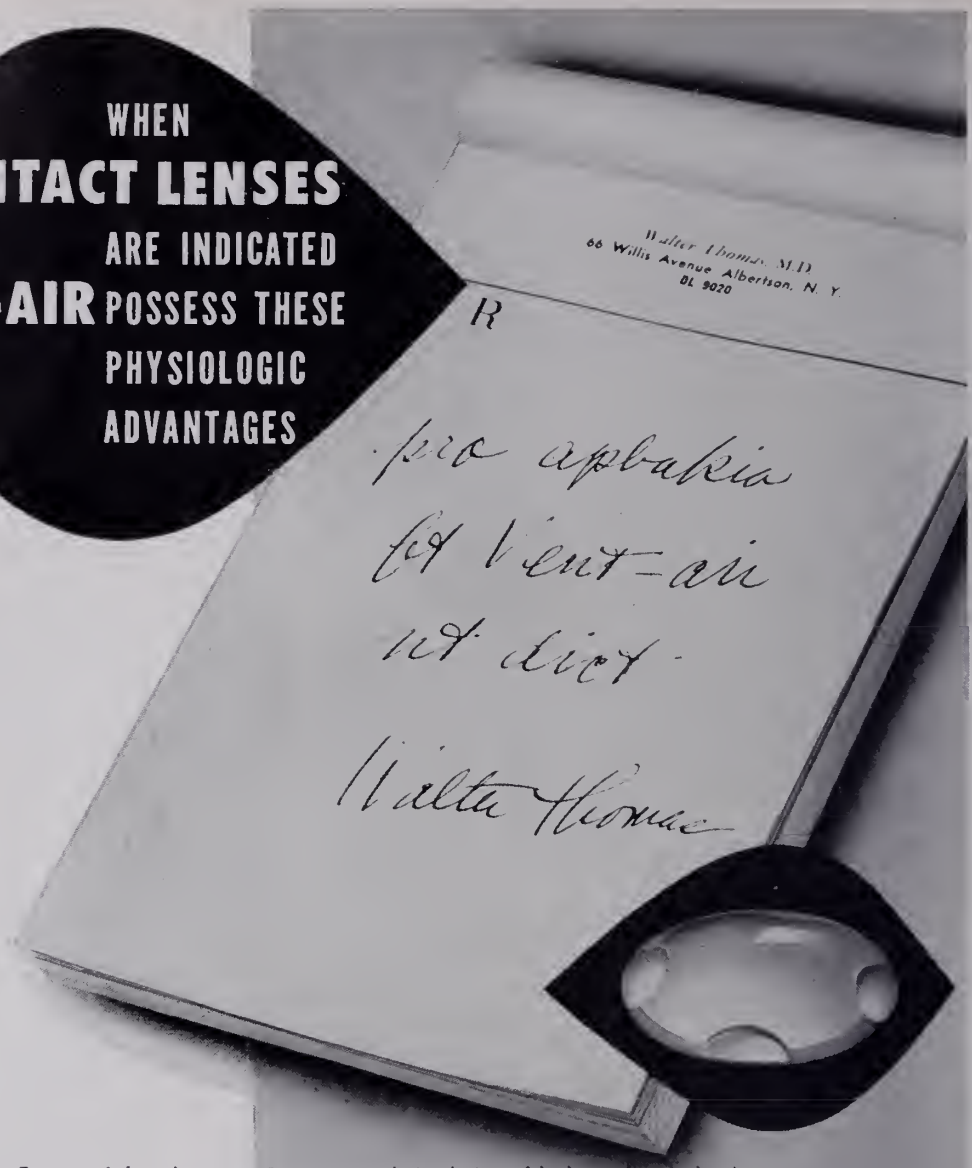
- **Highly potent—and long acting.**[1,2,3]
- **Relatively free of adverse side effects.**[1,2,3,5,6]
- **In ordinary dosage, does not reduce muscle strength or reflex activity.**[1]

REFERENCES: 1. Carpenter, E. B.: Southern M. J. 51:627, 1958. 2. Forsyth, H. F.: J.A.M.A. 167:163, 1958. 3. Lewis, W. B.: California Med. 90:26, 1959. 4. O'Doherty, D. S., and Shields, C. D.: J.A.M.A. 167:160, 1958. 5. Park, H. W.: J.A.M.A. 167:168, 1958. 6. Plumb, C. S.: Journal-Lancet 78:531, 1958.

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Four peripheral vents	Permit topical circulation of lachrymal and glandular secretians without excessive motility
Corneal apical clearance	Fovars normal carneal metabolism and oxygenation
Ultra-Smoothness of Inner and Outer Surfaces	Avoid limbal epithelial and tarsal conjunctival exacerbation
Highly absorptive methyl-methacrylate composition	Simulates "wetting" and maisture-retentian properties of carneo (of military specificatian)
Precision-ground	Prescriptive qualities exact ta ± 0.12 D. with precise allowance for vertex refraction and lachrymal factor (exact to .02 mm radius in inner curvature)
Custom-fitted	In uni-, bi-, or tri-curve radii conforming to corneal peripheral asphericities
Hyper-thinness of edge or center	Maintains unifarm thickness in high myopia ar hyperopia approximating .20 mm irrespective af power
Widest range of inner radii	From 5.0 to 10.00 mm providing for extremes af kerotoconic and megaloglabic dimensions
Cosmetic, pin-hole and tinted effects	For leucomatous, polyopic, iridodialytic and atypinic conditions or other corneal or media anomalies.

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Therapy with DECADRON has also been distinguished by virtual absence of diabetogenic effects and hypertension, by fewer and milder Cushingoid reactions, and by freedom from any new or "peculiar" side effects. Moreover, DECADRON has helped restore a "natural" sense of well-being.

†Analysis of clinical reports.

Decadron* DEXAMETHASONE

treats more patients more effectively

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LIVER,
B-COMPLEX,
IRON
of course

but more!...

SAFE AMOUNTS OF COBALT
AND EXTRA VITAMIN B_{12}

as in **Li-Betaron** ELIXIR

... because Cobalt is the nucleus of the B_{12} molecule — must be present for intestinal bacterial flora to produce B_{12} — is a proven effective catalyst for increasing Hb content and formation of erythrocytes. And, Cobalt in the recommended Li-Betaron dosage is safe, even for infants.

... because Li-Betaron provides immediately-usable B_{12} until normal intestinal synthesis can be stimulated by Cobalt.

DOSAGE

ADULTS — 1 toblespoonful twice daily after meals.
6 to 12 yeors — 1 or 2 teospoonfuls twice doily ofter meols.
1 to 6 yeors — ½ to 1 teospoonful twice doily after meols.
INFANTS — 10 to 20 drops (5 to 10 minims) in milk.

SUPPLIED—In pint and gollon bottles.

EACH 30cc CONTAINS

Vitomin B_{12} Crystolline	25 mcg.
Elementol Cobolt (os Cobalt Chloride)	1.5 mg.
Liver Concentrote	1 Gm.
Ferric Ammonium Citrate (10 MDR) (Iron 100 mg.)	572 mg.
Ponthenol	5 mg.
Thiomine HCl (18 MDR)	18 mg.
Riboflavin (3 MDR)	6 mg.
Nicotinamide	60 mg.
Pyridoxine HCl	2 mg.

In pernicious anemia, Li-Betaron Elixir is recommended only as a supplement to parenteral use of Liver Injection USP, or equivalent.

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Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets.

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all day

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oxyphencyclimine hydrochloride

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Natural Prolonged Action–The action of DARICON, a more potent and better tolerated anticholinergic, is consistently prolonged because it has a unique chemical structure and is not dependent on "mechanical" means (e.g., special coating, adsorption on ion-exchange resin).

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Dosage: 10 mg. b.i.d. (morning and evening). Supply: Tablets, 10 mg., white, scored. Bottles of 60 and 500.

*Trademark

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respiratory infections

prompt, high blood levels

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minimal adverse reactions

With well-tolerated CYCLAMYCIN, you will find it possible to control many common infections rapidly and to do so with remarkable freedom from untoward reactions. CYCLAMYCIN is indicated in numerous bacterial invasions of the respiratory system—lobar pneumonia, bronchopneumonia, tracheitis, bronchitis, and other acute infections. It has been proved effective against a wide range of organisms, such as pneumococci, H. influenzae, streptococci, and many strains of staphylococci, including some resistant to other "mycins." Supplied as Capsules, 125 and 250 mg., vials of 36; Oral Suspension, 125 mg. per 5-cc. teaspoonful, bottles of 2 fl. oz.

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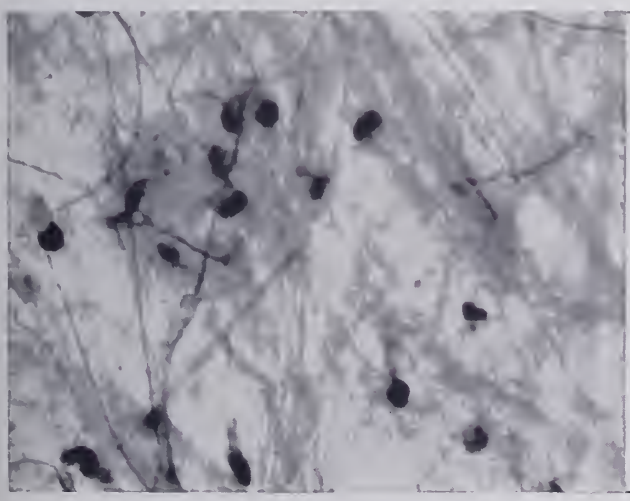
Aristogesic combines the *anti-inflammatory* effects of Aristocort® Triamcinolone with the *analgesic* action of a most potent salicylate. This means that the dosage of each is *substantially lower* than that ordinarily required for each agent alone. With Aristogesic the physician has exceptionally wide latitude in adjusting the dosage to the lowest effective level.

The possibility of gastric distress from either salicylamide or corticosteroid is minimized because of lower dosage required. This is further reduced by the buffer action of aluminum hydroxide. And the ascorbic acid helps meet the increased need for this vitamin in stress conditions. Because of the low dosage, side effects with Aristogesic have been relatively infrequent and minor in nature. However, more serious side effects have traditionally been observed on all corticosteroid therapy. Patients on long-term Aristogesic therapy should, therefore, be observed carefully.

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Steroid—Analgesic Compound LEDERLE

for relief of *chronic*—but *less severe* pain of rheumatic origin



Indications: Mild cases of rheumatoid arthritis, tenosynovitis, synovitis, bursitis, mild spondylitis, myositis, fibrositis, neuritis and certain muscular strains.

Dosage: Average initial dosage: 2 capsules 3 or 4 times daily. Maintenance dosage to be adjusted according to response.

Each Aristogesic Capsule contains:

ARISTOCORT© Triamcinolone . . . 0.5 mg.
Salicylamide . . . . 325 mg.
Aluminum Hydroxide . . 75 mg.
Ascorbic Acid . . . . . 20 mg.

Supply: Bottles of 100.

Collagen tissue (x250)

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BONADOXIN®

(tablets and drops)

STOPS STOPS STOPS MORNING SICKNESS



BONADOXIN Tablets relieve nausea and vomiting of pregnancy in 9 out of 10,[1-7] often within a few hours.

Moreover, a controlled study of 620 cases reported that with BONADOXIN "toxicity and intolerance [are] zero."[1] BONADOXIN is rarely soporific. It is free from the risks associated with overpotent tranquilizer-antinauseants.

NOTE: BONADOXIN has also been shown highly effective in relieving nausea and vomiting associated with: anesthesia, radiation sickness, Meniere's syndrome, labyrinthitis, cerebral arteriosclerosis, and motion sickness.

Each tiny pink-and-blue BONADOXIN tablet contains:

Meclizine HCl (25 mg.) . . . for antivertiginous, antinauseant effects.

Pyridoxine HCl (50 mg.) . . . for specific metabolic replacement.

DOSAGE: usually one tablet at bedtime. Severe cases may require another dose on arising.

SUPPLIED: tiny pink-and-blue tablets, bottles of 25 and 100. Fruit-flavored, clear green syrup in 30 cc. dropper bottles.

Infant colic? BONADOXIN DROPS are antispasmodic... stop colic in 84%,[8-10] without the risk of belladonna and barbiturates.

Each cc. contains:
Meclizine dihydrochloride . . 8.33 mg.
Pyridoxine hydrochloride . . . 16.67 mg.

Dosage:

under 6 months . . . . 0.5 cc.	2 or 3 times daily, on the tongue, in fruit juice or water
6 months to 2 years . . . . 1.5 to 2 cc.	
2 to 6 years . . 3 cc.	
adults and children over 6 . . . . . 1 tsp. (5 cc.)	

References: 1. Goldsmith, J. W.: Minnesota Med. 40:99 (Feb.) 1957. 2. Groskloss, H. H., et al.: Clin. Med. 2:885 (Sept.) 1955. 3. Weinberg, A., and Werner, W. E. F.: Am. Pract. & Digest Treat. 6:580 (April) 1955. 4. Crawley, C. R.: West. J. Surg. 8:463 (Aug.) 1956. 5. Tartikoff, G.: Clin. Med. 3:223 (March) 1955. 6. Dunn, R. D., and Fox, L. P.: Clinical exhibit. 7. Codling, J. W., and Lowden, R. J.: Northwest Med. 57:331 (March) 1958. 8. Dougan, H. T.: Personal communication. 9. Leonard, C. L.: Personal communication. 10. Steinberg, C. L.: Personal communication.

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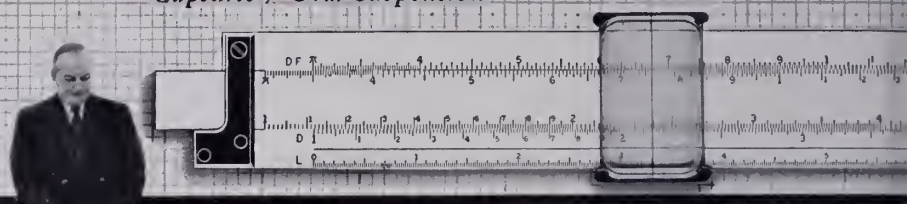
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(triacetyloleandomycin)

Capsules / Oral Suspension

* designed for superior control of common Gram-positive infections

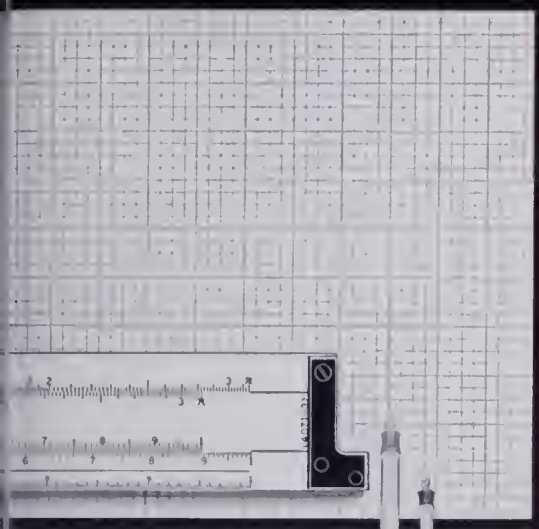




in the patient:

95% effective in published cases[1-8]

Conditions treated	No. of Patients	Cured	Improved	Failure
ALL INFECTIONS	558	448	80	30
Respiratory infections	258	208	31	19
Pharyngitis and/or tonsillitis	65	58	5	2
Pneumonia	90	66	17	7
Infectious asthma	44	38	–	6
Otitis media	31	29	2	–
Other respiratory (bronchitis, bronchiolitis, bronchiectasis, pneumonitis, laryngotracheitis, strep throat)	28	17	7	4
Skin and soft tissue infections	230	191	38	1
Infected wounds, incisions and lacerations	41	33	8	–
Abscesses	51	43	8	–
Furunculosis	58	51	6	1
Acne, pustular	43	28	15	–
Pyoderma	19	19	–	–
Other skin and soft tissue (infected burns, cellulitis, impetigo, ulcers, others)	18	17	1	–
Genitourinary infections	28	19	3	6
Acute pyelitis and cystitis	10	8	2	–
Urethritis with gonorrhea or cystitis	8	8	–	–
Pyelonephritis	4	1	–	3
Salpingitis	5	1	1	3
Pelvic inflammation with endometriosis	1	1	–	–
Miscellaneous (adenitis, enteritis, enterocolitis, subacute bacterial endocarditis, fever, hematoma, staphylococcus carriers, osteomyelitis, tenosynovitis, septic arthritis, acute bursitis, periarthritis)	42	30	8	4

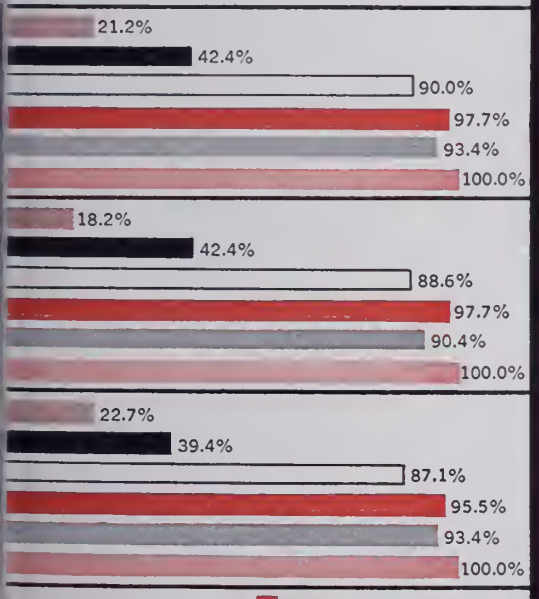


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130 STAPHYLOCOCCI[9]



Antibiotic A 2-10 units
Antibiotic B 5-30 mcg.
Antibiotic C 5-30 mcg.
Tao 2-15 mcg.
Antibiotic D 2-15 mcg.
Antibiotic E 5-30 mcg.

rcentage of organisms inhibited by the range of
ncentrations listed for each antibiotic.

Other Tao advantages:

Rapidly absorbed – stable in gastric acid,[7] TAO needs no retarding protective coating

Low in toxicity – freedom from side effects in 96% of patients treated; cessation of therapy is rarely required

Highly palatable – "practically tasteless"[7] active ingredient in a pleasant cherry-flavored medium.

Dosage and Administration: Dosage varies according to the severity of the infection. **For adults**, the average dose is 250 mg. q.i.d.; to 500 mg. q.i.d. in more severe infections. **For children** 8 months to 8 years, a daily dose of approximately 30 mg./Kg. body weight in divided doses has been found effective. Since TAO is therapeutically stable in gastric acid, it may be administered without regard to meals.

Supplied: TAO Capsules – 250 mg. and 125 mg., bottles of 60. TAO for Oral Suspension – 1.5 Gm., 125 mg. per teaspoonful (5 cc.) when reconstituted; unusually palatable cherry flavor; 2 oz. bottle.

References: 1. Koch, R., and Asay, L. D.: J. Pediat., In press. 2. Leming, B. H., Jr., et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 3. Mellman, et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 4. Olansky, S., and McCormick, G. E., Jr.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 5. Shubin, H., et al.: Antibiotics Annual 1957-1958, New York, N. Y., Medical Encyclopedia, Inc., 1958, p. 679. 6. Isenberg, H., and Karelitz, S.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 7. Wennersten, J. R.: Antibiotic Med. & Clin. Therapy 5:527 (Aug.) 1958. 8. Kaplan, M. A., and Goldin, M.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 9. Truant, J. P.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958.

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Have your patient keep a calorie count. Then with a glass of beer* to brighten meals, he is more likely to follow a balanced diet later.

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Usual dosage: 2 tablets or teaspoonfuls q.i.d. (equiv. 1 Gm. tetracycline). Each TABLET contains: ACHROMYCIN® Tetracycline (125 mg.); phenacetin (120 mg.); caffeine (30 mg.); salicylamide (150 mg.); chlorothen citrate (25 mg.). Also as SYRUP (lemon-lime flavored), caffeine-free.

1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933.

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(1) Rubin, A., and Babbott, D.: J.A.M.A. *168*:498, (Oct. 4) 1958. (2) Kinsey, A. C.; Pomeroy, W. B., and Martin, C. E.: Sexual Behavior in the Human Male, Philadelphia, W. B. Saunders Company, 1948.

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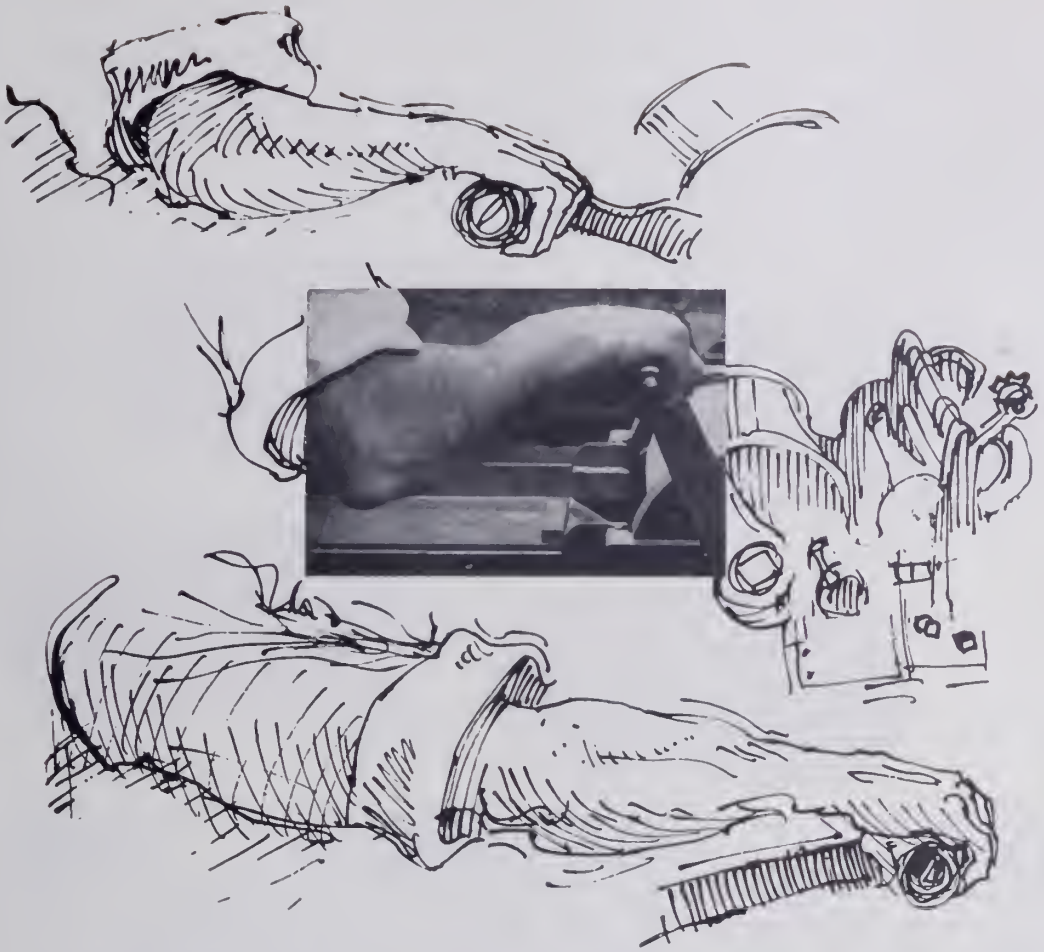
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Medaprin, Upjohn's new analgesic-steroid combination, contains aspirin plus Medrol.** the corticosteroid with *the best therapeutic ratio in the steroid field*.† Instead of suffering recurrent discomfort because of the "wearing off" of analgesics, the patient on Medaprin experiences a smooth, *extended* relief and more normal mobility.

Indications: Medaprin is indicated in mild-to-moderate rheumatic and musculoskeletal conditions, including rheumatoid arthritis, deltoid bursitis, low back pain, neuralgia, synovitis, fibromyositis, osteoarthritis, low back sprain, traumatic wrist, sciatica, and "tennis elbow."

Dosage: The recommended dosage is 1 tablet q.i.d. The usual cautions and contraindications of corticotherapy should be observed.

Supplied: In bottles of 100 and 500.

Formula: Each Medaprin tablet contains

- 300 mg. acetylsalicylic acid, for prompt relief of pain
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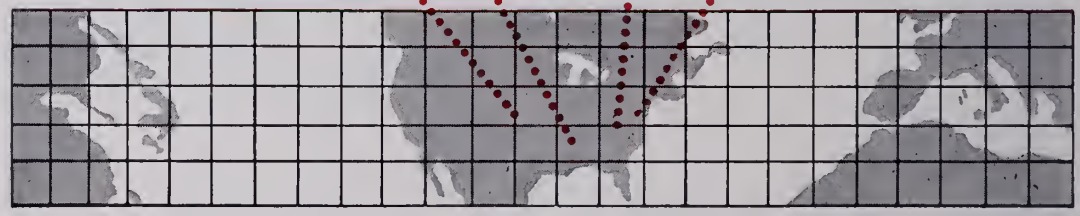
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Supplied: Tablets, bottles of 100. Syrup, pint bottles. Parenteral Solution, 10 cc. multiple-dose vials.

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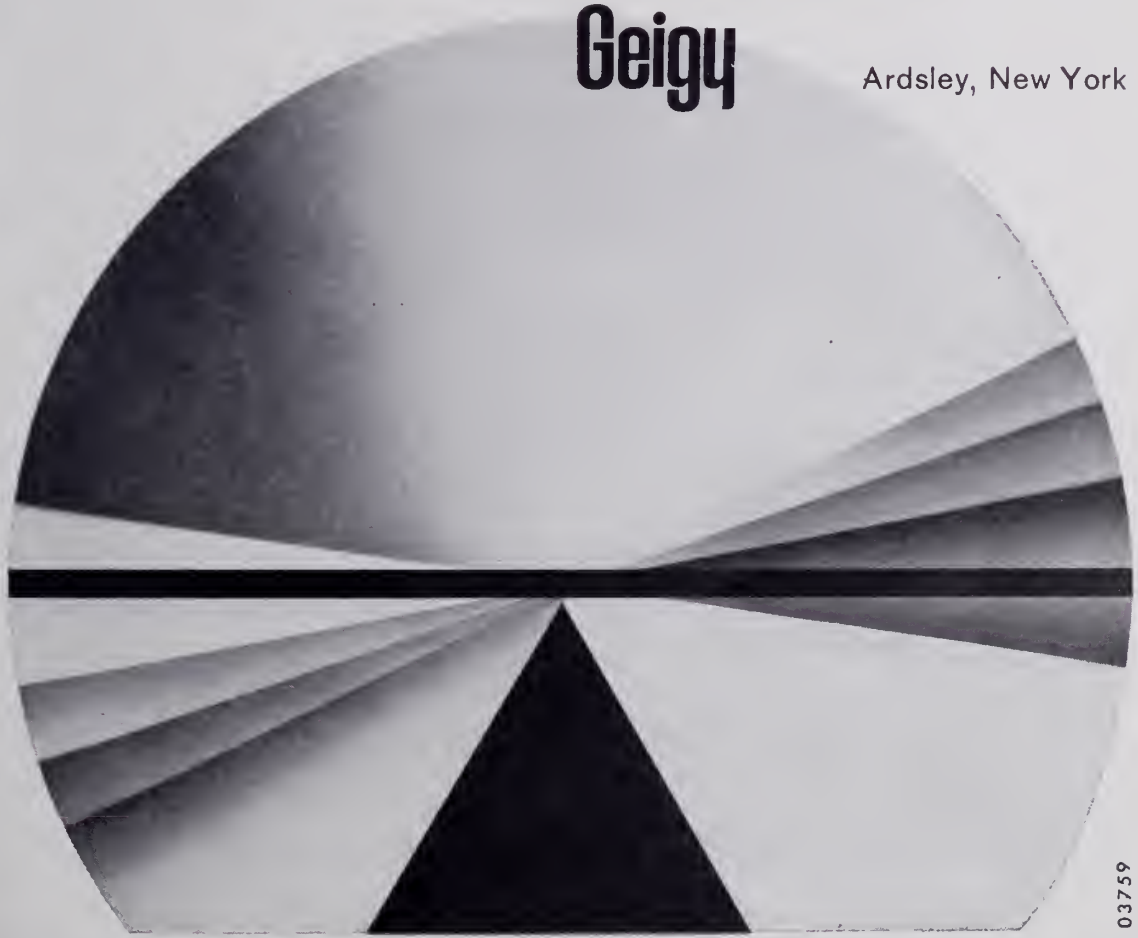
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125 mg. 250 mg.	raspberry flavored, 2 oz. bottle, 125 mg. per teaspoonful (5 cc.)	raspberry flavored, 10 cc. bottle (with calibrated dropper), 5 mg. per drop (100 mg. per cc.)

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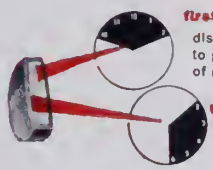
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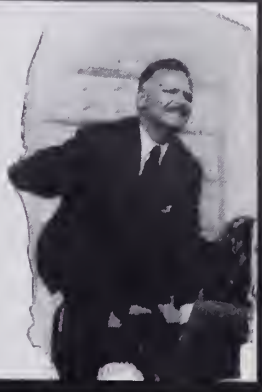


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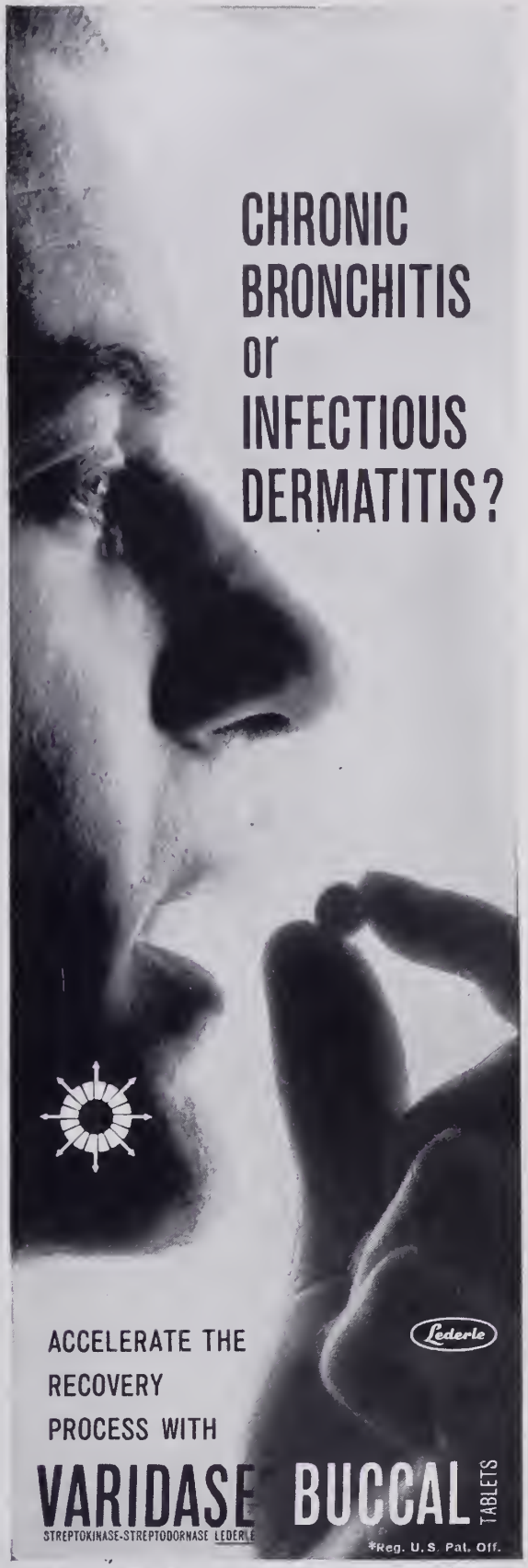
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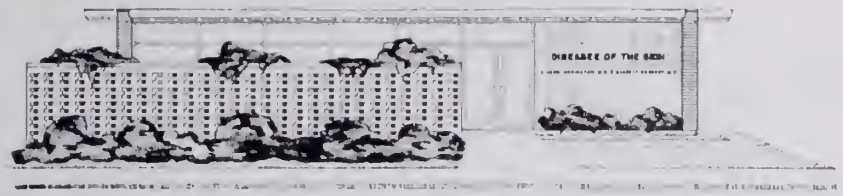
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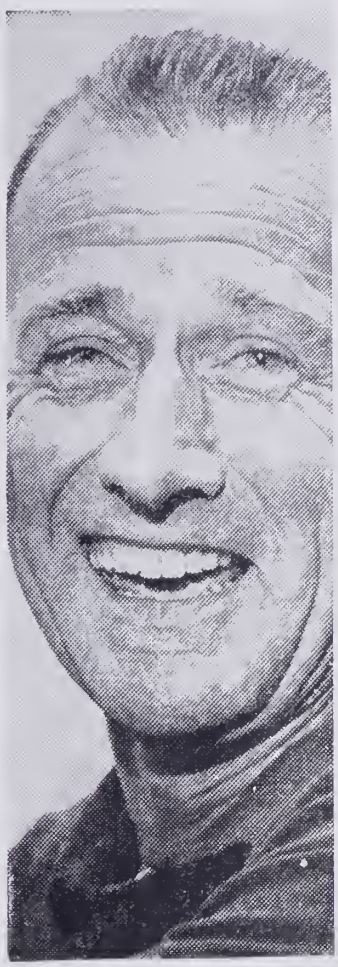
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Analysis of chest X-ray surveys shows that the number of new cases of tuberculosis discovered by X-raying the general public is so small as to make continuing of such surveys impractical.

Our program now stresses the use of the tuberculin test as the initial case-finding tool, and the use of chest X-rays only on the positive reactors. This is the policy that the local health units will follow. Forty-one health units throughout the State now have X-ray facilities and three more will be installing such equipment in the near future.



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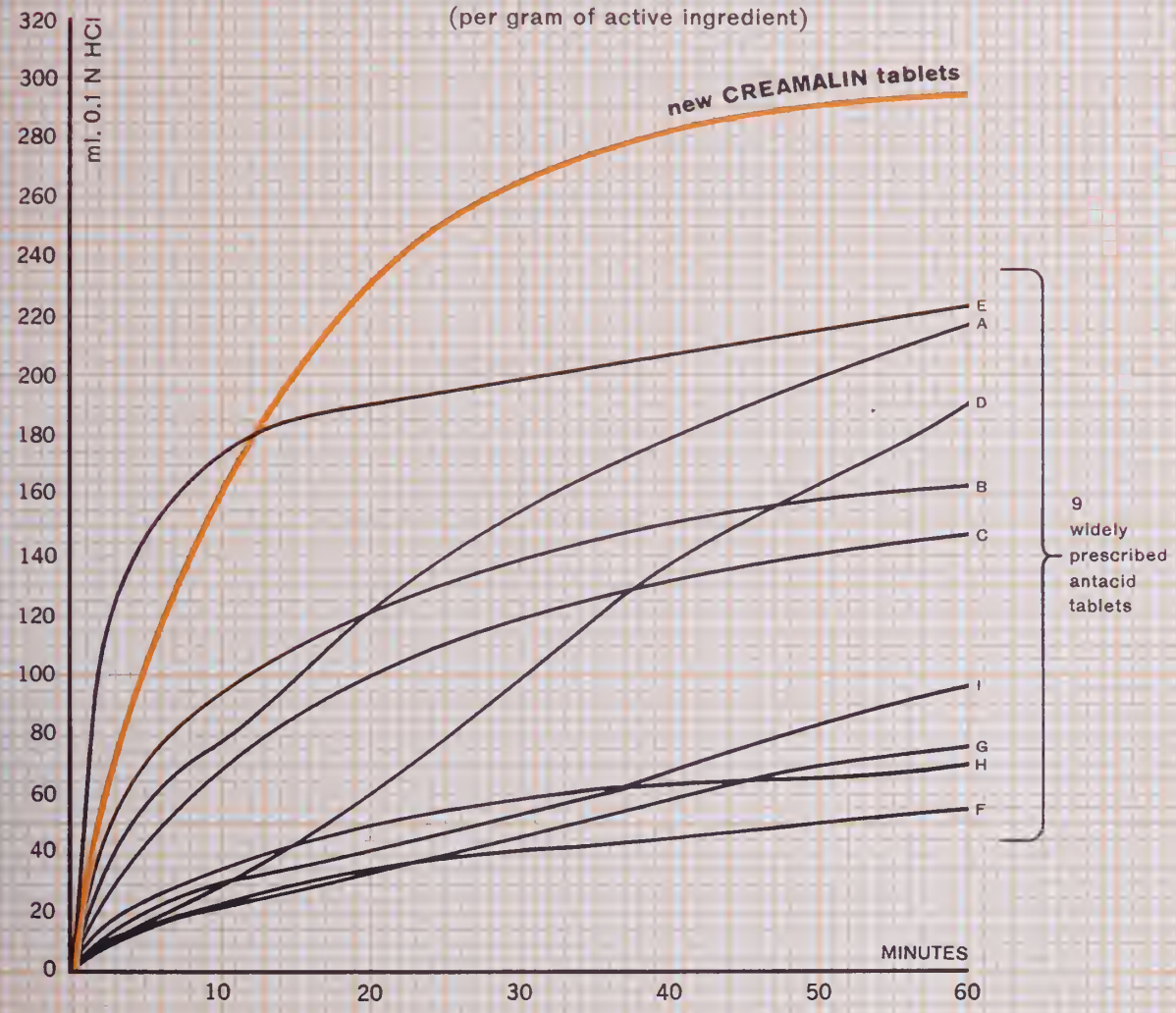
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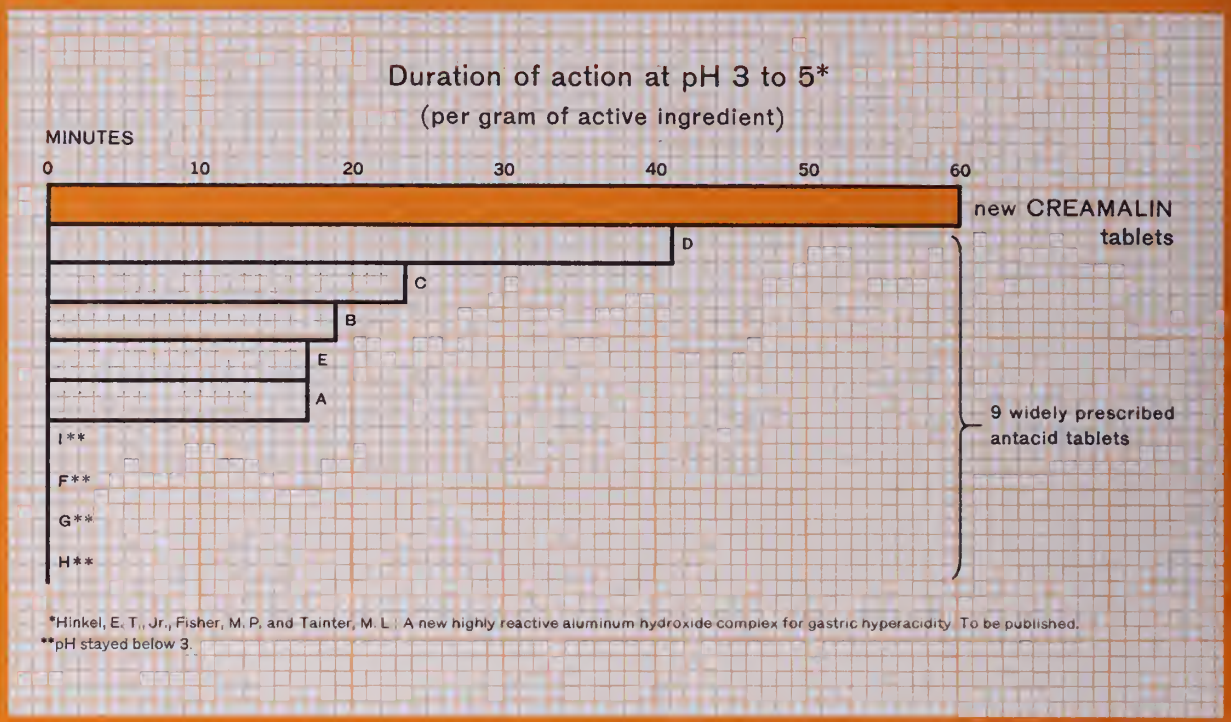


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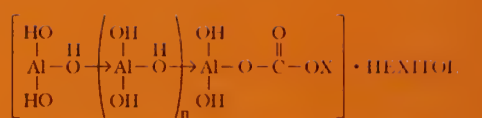
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References: 1. Hart, D.; Bagnall, A. W.; Bunim, J. J., and Polley, F. H.: Ninth International Congress on Rheumatic Diseases, Toronto, Ont. (June 25) 1957. 2. Report of Joint Committee, Medical Research Council & Nuffield Foundation, Treatment of Rheumatoid Arthritis, British Medical Journal (April 13) 1957. 3. Friend, D. G.: New England J. Med. 257:278 (Aug.) 1957.

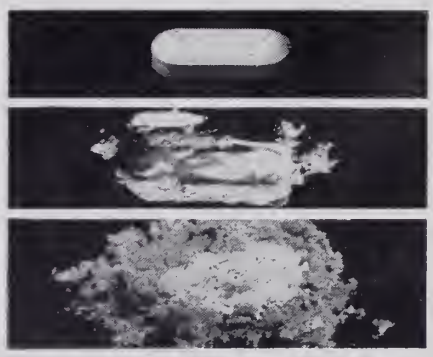
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Type of infection	Number of Patients	RESULTS Excellent to Good	Fair	Poor
Respiratory[3,4,*]	32	32		
Shigella dysentery[5]	14	14		
Enteritis[5]	10	6	2	2
Bacteremia[3,5]	5	5		
Meningitis[3,5]	4	3		1[**]
Rocky Mountain spotted fever[3,5]	2	2		
Ear abscess with cellulitis[4]	1	1		
Lung abscess[4]	1			1
Typhoid fever[5]	1	1		
TOTALS	70	64	2	4

*Includes 15 patients who were administered CHLOROMYCETIN SUCCINATE by nebulization under intermittent positive pressure breathing.

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REFERENCES (1) Glazko, A. J., *et al.*, in Welch, H., & Martí-Ibañez, F.: Antibiotics Annual 1957-1958, New York, Medical Encyclopedia, Inc., 1958, p. 792. (2) Unpublished data: Research Laboratories, Parke, Davis & Company, 1958. (3) Ross, S.; Puig, J. R., & Zaremba, E. A., in Welch, H., & Martí-Ibañez, F.: Antibiotics Annual 1957-1958, New York, Medical Encyclopedia, Inc., 1958, p. 803. (4) Payne, H. M., & Hackney, R. L., Jr.: *ibid.*, p. 821. (5) McCrumb, F. R., Jr.; Snyder, M. J., & Hicken, W. J.: *ibid.*, p. 837.

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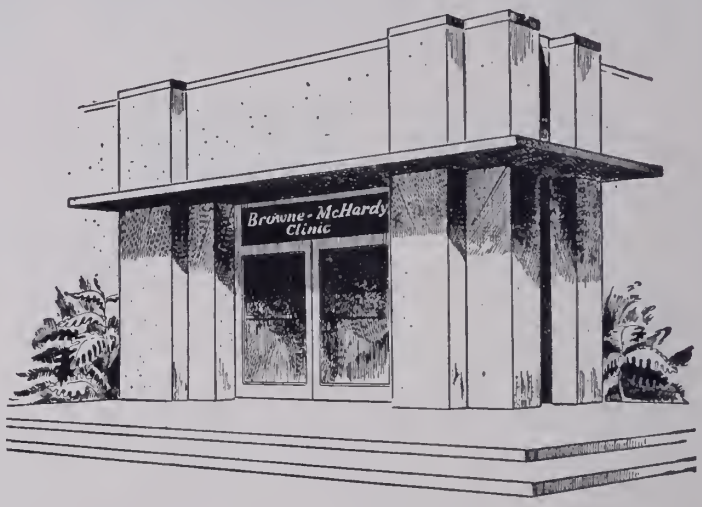
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(c) Continue weekly adjustments during first month of therapy until maintenance dose has been established. Adjustments below 250 mg. daily are best made in steps of 100 mg. (one 100 mg. tablet). The maintenance dose may occasionally be as low as 100 mg. (one 100 mg. tablet daily) or, rarely, as high as 1.0 Gm. (four 250 mg. tablets) daily. Do not exceed daily dose of 1.0 Gm.

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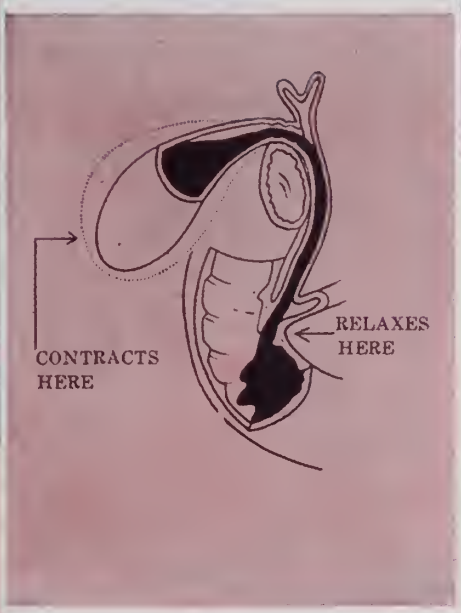
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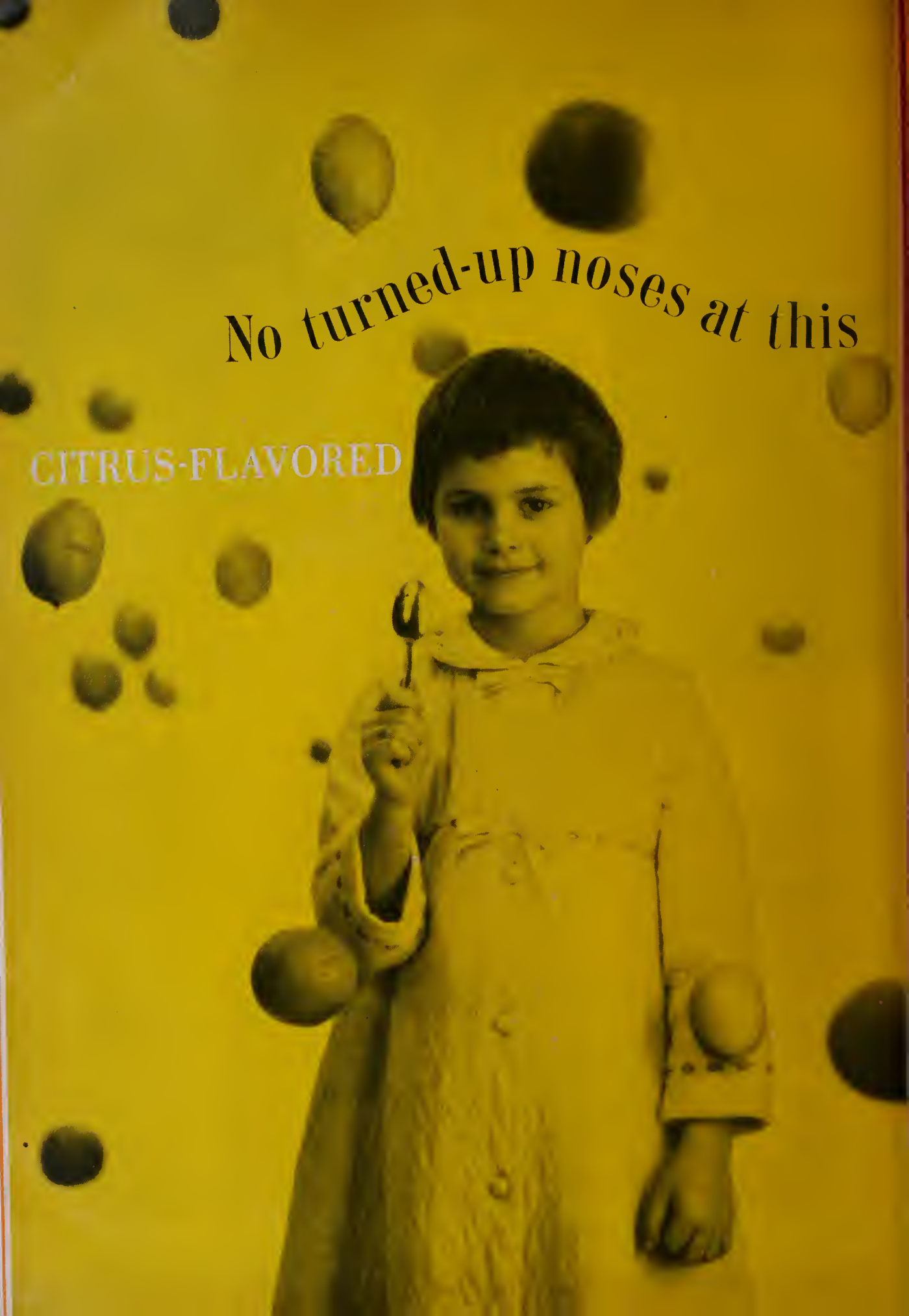
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1. Herland, A. L., Lowenstein, A.: Quart. Rev. Surg. Obst. & Gynec. 14:196 (Dec.) 1957

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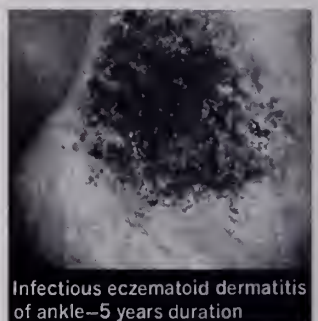
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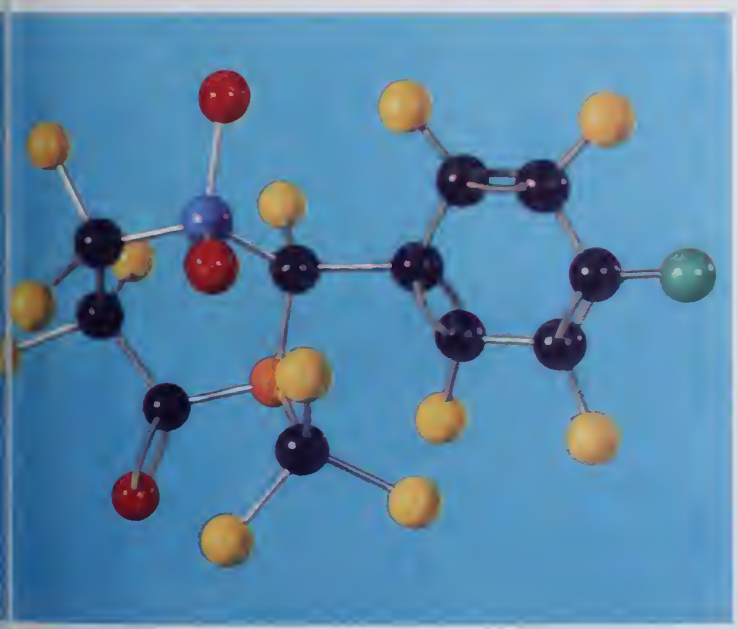
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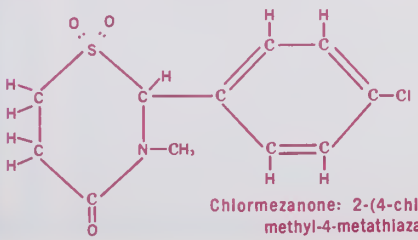
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*** tran-qui-lax-ant** (tran'kwi-lak'sant) [< L. tranquillus, quiet; L. laxare, to loosen, as the muscles]



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In musculoskeletal conditions[1]

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INDICATIONS

- Low back pain (lumbago)
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- Osteoarthritis
- Fibrositis
- Myositis
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- Neck pain (torticollis)
- Rheumatoid arthritis
- Disk syndrome
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By relieving muscle spasm and pain, Trancopal permits early and active purposeful exercise and physical therapy to accomplish maximal benefits for rapid recovery.

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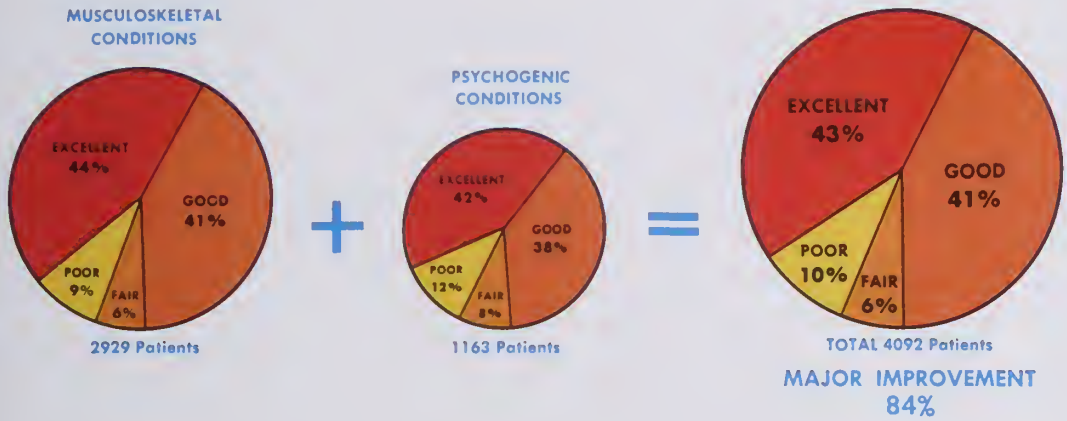
In anxiety and tension states[1]

effective in 88% of patients

INDICATIONS

Anxiety and tension states	Dysmenorrhea
Premenstrual tension	Asthma
Emphysema	Angina pectoris

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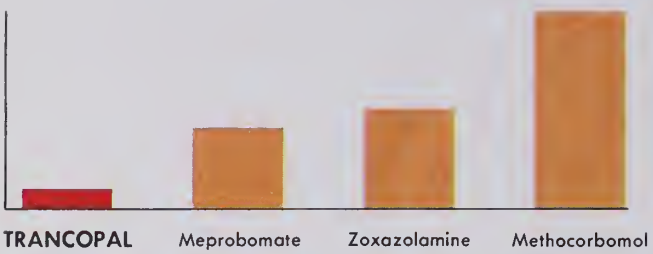
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Better tolerated and safer than older drugs[3]

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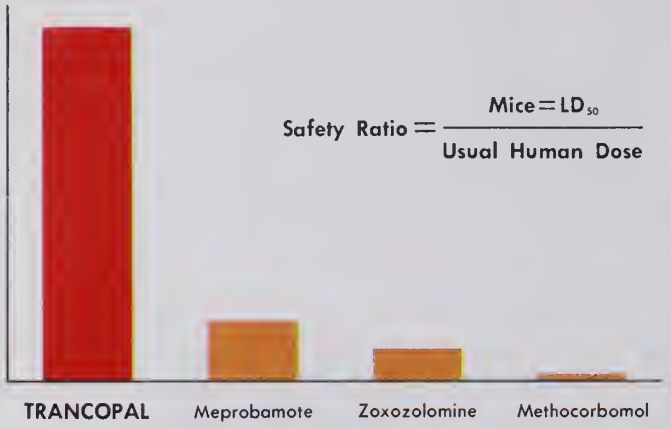
Comparison with 3 widely used central relaxants

When compared with three widely used central relaxants for activity, safety and clinical effectiveness, Trancopal offers definite desirable advantages.



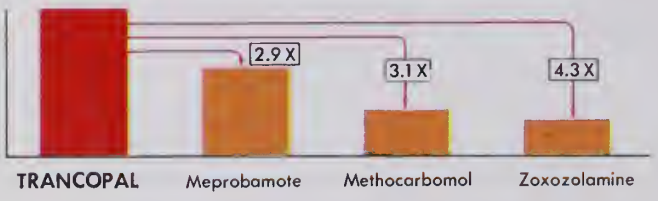
for activity

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for safety

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A New Treatment for Osteomyelitis: Extremity Perfusion with Antibiotics

• Summary of animal experiments in isolation perfusion technic together with one case report in which such treatment was carried out.

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Introduction

MOST of the causative organisms in chronic osteomyelitis are resistant to the commonly-used antibiotics. If the bacteria are sensitive only to antibiotics which produce systemic toxicity,[1,4-6] such treatment must be modified or withheld. Yet this systemic toxicity can be avoided or miminized by the use of the isolation-perfusion technic. This has been demonstrated repeatedly in the treatment of malignancies with chemotherapeutic drugs.[2,7,8]

Animal experiments were begun in 1957 to determine the maximum amount of various antibiotics possessing systemic toxicity that could be administered by the isolation-perfusion technic. This report comprises a summary of these animal experiments and a case report in which these technics were used for the administration of massive doses of bacitracin† and chloromycetin‡ in a case of chronic osteomyelitis.

Laboratory Experiments

The hind limb of a dog was used for determination of the safe dosage level of antibiotic agents administered by the isolation-perfusion technic. A simple bubble dispersion oxygenator and a sigmamotor pump were used for the extracorporeal circuit.[8] Bacitracin and chloromycetin were the first drugs studied.

The procedure involved cannulation of

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* Clinical Fellow, American Cancer Society.

† Supplied by Andrew J. Moriarity, M. D., Upjohn Co., Kalamazoo, Mich.

‡ Supplied by J. K. Weston, M. D., Parke-Davis & Co., Detroit, Mich.

the common femoral artery and vein, following which perfusion was carried out for thirty minutes. At the completion of perfusion the limb was washed out with 200 cc. of drug-free perfusate. Increasing amounts of bacitracin were used until the maximum safe dosage was determined. Since the dog kidney is more resistant to the deleterious effects of bacitracin than is the kidney of other animals, all of the animals receiving 4000 units/Kg. of body weight were subjected to unilateral nephrectomy prior to perfusion of the leg. The control animals were given the same amount of bacitracin by direct intra-arterial injection. The results are summarized in Table 1; since approximately

TABLE 1
RESULTS—CONTROL PERFUSION

Bacitracin			
Dosage U/Kg. B.W.		No. Treated	Survived
4,000	Control	6	2
2,000	Perfusion	3	3
4,000	Perfusion	10	8
Chloromycetin			
Dosage (gm./Kg. B.W.)		No. Treated	Survived
0.5 - 1.0	Perfusion	3	0
0.25	Perfusion	7	4
0.1	Perfusion	10	8*

* 2 dogs died of unrelated causes.

25 per cent of the animals receiving 4000 units/Kg. of body weight failed to survive, 3000 to 3500 units/Kg. was selected as the maximum safe dosage of bacitracin in the hind limb of a dog when administered by the technic described. In determining a safe dosage level for chloromycetin a massive dosage was used initially. Then decreasing amounts were administered until a safe level was found. The results of these experiments are shown in Table 1.

On the basis of dosage levels determined in animals, the principle of isolation of an extremity and perfusion with antibiotics was applied clinically. A report of the first clinical case is summarized below.

Case Report

A 37 year old male sustained a fracture of the left femur at age 7, following which he developed intramedullary osteomyelitis. Multiple sinus tracts formed, but eighteen months following fracture the patient was ambulated. Ten years later, at the age of 17, he re-fractured the left femur and again multiple sinus tracts developed. Although the fracture healed after a period of immobilization draining sinus tracts have persisted for the past twenty years.

Physical examination at the time of the present admission revealed numerous scars over the left thigh with two sinus tracts extending to the lower femur. The left femur was one inch shorter than the right and there was slight atrophy of the quadriceps and limitation of knee flexion to 100 degrees. Cultures of the drainage site showed staphylococcus aureus, coagulase positive, sensitive to chloromycetin and bacitracin. Roentgenograms revealed chronic osteomyelitis of the left femur and following injection of the sinus tracts, pockets in the intercondylar area of the femur and a sequestrum in the midportion of the femoral shaft were demonstrated.

On July 21, 1958, and again on August 14, exploration of the sinus tracts and saucerization of the proximal and midportions of the femur were performed. However, the tract over the medial femoral condyle persisted.

On December 8, an isolated perfusion was performed on the left lower extremity. Cannulae were placed in the left common femoral artery and vein following heparinization of the patient, and the cannulae were connected to a pump-oxygenator circuit. Bacitracin in a dosage of 3000 units/Kg. body weight and chloromycetin in a dosage of 65 mg./Kg. body weight were added to the perfusate and perfusion continued for thirty minutes. Following perfusion the cannulae were removed and the artery and vein were repaired. Saucerization of the distal left femur was performed and the incisions closed. Postoperative healing was uneventful and there has been no evidence of recurrent osteomyelitis to date.

Discussion

The introduction of the antibiotics has greatly decreased the incidence of the chronic osteomyelitis. Yet osteomyelitis is still a feared complication of compound fractures, especially those of the distal third of the tibia and fibula. While less frequent than in the pre-antibiotic era, amputations are still done because of infections which cannot be eradicated.

Despite the introduction of many new antibiotics, resistant strains of bacteria and drug toxicity remain distinct limitations to their clinical usefulness. The problem of toxicity can be lessened by the use of the isolation-perfusion technic as developed for the treatment of malig-

nancies. Thus the nephrotoxic effects of bacitracin can be avoided by perfusing the drug only through the affected limb.

Since most perfusion treatments are carried out for limited periods of time, less than one hour, the use of antibiotic drugs by this technic would constitute another form of stosstherapy (treatment by a single massive injection of a drug.) Joseph [3] has recently reviewed the literature on stosstherapy and reported on the use of a single massive dose of penicillin and/or sulfa drugs for acute lower respiratory infections in children. The results of this form of treatment were equal to the results in other children treated by conventional therapy.

As outlined in this paper, the isolation-perfusion technic is a form of adjuvant therapy and is not intended to replace the fundamentals of surgical therapy such as sequestrectomy, adequate saucerization and proper immobilization. Used in conjunction with standard treatment of osteomyelitis, it may be possible to eradicate infections which cannot otherwise be treated because of the systemic toxicity produced by some of the antibiotics.

Summary and Conclusions

Chronic osteomyelitis is still a major problem in clinical practice, especially in compound fractures of the distal third of the tibia and fibula.

The causative organism in many of these cases are sensitive only to antibiotics having a significant degree of systemic toxicity.

Systemically toxic drugs may be administered safely by the isolation-perfusion technic.

Animal experiments have shown that 3000 units/Kg. body weight of bacitracin and 0.1 gm./Kg. body weight of chloromycetin can be administered to an extremity by this technic. One case is reported in which such treatment was carried out with gratifying early results. This adjunct to standard therapy is offered as a means of using specifically indicated antibiotics in the treatment of osteomyelitis.

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Volvulus of Sigmoid Colon*

• In a review of sixty-three cases of volvulus of the sigmoid colon, with ten deaths, taken from the records of five New Orleans hospitals, the author discusses the methods for improving the mortality rate and decreasing the recurrence rate.

IRVING A. LEVIN, M.D.†
New Orleans

VOLVULUS of the sigmoid colon is a condition which fortunately occurs infrequently. Diagnostic methods have been standardized and diagnosis can be made in a fair percentage of cases when the sigmoid is involved. A correct diagnosis was made in 77 per cent of the cases in this series. However, experience with the condition has been so limited that no satisfactory plan has been evolved for its management. Therefore, recent literature has been reviewed and this series of cases has been studied with the objective of discovering, if possible, a plan of treatment which will decrease the mortality rate and the morbidity and prevent the high rate of recurrence.

The information in Table 1 is based on a study of the records of cases of volvulus in the files of five New Orleans hospitals.

TABLE 1
LIST OF CASES IN FIVE NEW ORLEANS HOSPITALS

	Year	Sigmoid
Touro Infirmary	1945-1955	9
Hotel Dieu	"	6
Mercy Hospital	"	1
V. A. Hospital	"	11
Charity Hospital	"	36
		63—10 deaths
Total 63 cases—10 deaths (15.8%)		

Diagnosis

History is quite important. Over 50 per cent of the patients had as a chief complaint inability to pass flatus and stool. Abdominal distention was also a major complaint in many patients. This distention at onset is insidious accompanied by mild generalized cramping pain but becomes severe. Nausea and vomiting were present in those cases with an acute onset and usually there was a high percentage of strangulation.

The past history is of great value in making the diagnosis. Many of the patients give a history of chronic constipation and episodes of partial volvulus relieved by enemas. Twenty-five percent of these patients had a past history of previous hospitalization for volvulus.

The characteristic roentgenologic evidences of volvulus of the sigmoid are (1) on flat plate of abdomen—a markedly distended sigmoid which extends to the costal margin, (2) fluid levels in the sigmoid loop, (3) moderate gaseous distention of remainder of colon, (4) typical conical shaped narrowing at rectosigmoid on barium enema, the so called "bird's beak" deformity.

Treatment

I feel that insertion of a long rectal tube through a proctoscope should be attempted. If this method is successful, the patient should be observed carefully and resection of the involved area should be performed while the patient is still in the hospital. If unsuccessful, abdominal exploration and simple detorsion should be attempted. In cases complicated by gangrene, a Mikulicz resection should be performed. Several methods of treatment were employed in this series (Table 2).

The number of cases treated by each method is so small that no valid conclu-

* Presented at the Seventy-eighth Annual Meeting of the Louisiana State Medical Society, in Shreveport, May 7, 1958.

† From the Department of Surgery, Louisiana State University School of Medicine, New Orleans.

TABLE 2
METHODS OF TREATMENT EMPLOYED IN THIS SERIES

Method	Cases	Deaths
Proctoscopic reduction	8	0
Proctoscopic reduction and resection on the same admission	7	0
Simple reduction	13	1
Mikulicz procedure	11	4
Resection and anastomosis	7	0
Simple reduction and anastomosis on the same admission	2	0
No treatment	5	0
No treatment possible (too ill)	4	4
Reduction following barium enema	4	0
Reduction following simple enemas	1	0
Cecostomy	1	1
	63	10

sions can be drawn from a study of the statistics. However, a review of the literature reveals that reduction with the aid of the proctoscope is successful in a desirable number of cases and it is a safe method (Table 3).

TABLE 3
PROCTOSCOPIC REDUCTIONS

Author	Cases	Deaths
Brusgaard	106	4
Hamlin	11	0
Isaacson	7	1
Owings	25	0
Anderson	14	1
Levin	15	0
Michel	4	1
	182	7 = 3.3%

Until recently, there has been opposition to proctoscopic reduction. The major reasons for this opposition are danger of perforation and unrecognized gangrene. In reported cases there were only two in which perforation occurred. These cases should be watched very carefully after reduction and when there are signs of gangrene, abdominal exploration should be performed. Gangrene may be detected by proctoscopic examination. It appears as a purplish discoloration of the mucosa accompanied by a "corkscrew" or spiral appearance of the bowel wall. In this series, two cases were detected in this manner.

Regarding the technic itself, only a few words need be said. The knee-chest or Sims positions are satisfactory, and the proctoscope should be inserted with the utmost care. There will be sudden forceful expulsion of quantities of gas and feces if introduction of the proctoscope is successful.

Results obtained by simple operative detorsion are shown in Table 4. This record indicates that detorsion is a good

TABLE 4
SIMPLE OPERATIVE DETORSION

Author	Cases	Deaths
Levin	15	1
Michel	4	0
Dean	10	3
Anderson	6	1
Pool	10	0
	45	5 = 11%

method which carries with it a relatively low mortality rate. Cases with suspected or actual gangrene found at the time of exploration should be subjected to a Mikulicz type of resection (Table 5). Some of these cases had pervious episodes of volvulus and were allowed to progress

TABLE 5
MIKULICZ OPERATION

Author	Cases	Deaths
Levin	11	4
Pool	2	1
Brusgaard	5	5
Anderson	3	3
Michel	5	3
	26	16 = 61.5%

without operation until they developed a fatal attack.

In our series there were 16 recurrences. Six of these occurred while the patient was in the hospital and there was one death. Ten had episodes of volvulus prior to admittance and two of these patients died. Had resection been done in these cases, speculation regarding the outcome seems justifiable.

There are three methods available to prevent recurrences: (1) proctoscopic reduction followed by resection and anastomosis while the patient is still in the hospital, (2) Mikulicz resection (necessary in cases of gangrene and useful when there is extreme redundancy of the

bowel), and (3) resection and anastomosis during a quiescent interval.

In order to decrease the mortality rate and prevent recurrences, the following procedures are advocated.

1. If immediate insertion of a rectal tube through the proctoscope is successful, and no signs of gangrene are present, an interval of ten to fourteen days should be allowed to prepare the patient and resection an anastomosis should be performed.

2. If the patient is admitted during a quiescent interval and diagnosis has been established, resection and anastomosis is the best procedure.

3. If reduction with the aid of the proctoscope fails, or reveals that the bowel is gangrenous, which was true of two cases in this series, Mikulicz resection should be performed.

If simple detorsion is successful, resection and anastomosis should be performed on the same admission or within three months. Patients should be warned of the chances of recurrence and its dangers.

Results of Treatment

In this series, 63 cases of volvulus of the sigmoid were treated and of these, there were 10 (15.8 per cent) deaths. This record compares favorably with those of most recent reports (Table 6).

TABLE 6
NUMBER OF CASES AND MORTALITY RATES OF VARIOUS AUTHORS

Author	Cases	Deaths
Brusgaard	91	13
Levin	63	10
Hamlin	34	4
Isaacson	7	1
Michel	24	6
Owing	25	0
Dean	21	4
	265	38 = 14%

A review of the records of the ten deaths in our series revealed the following facts: The average age was 68 years. The duration of symptoms averaged 4.3 days. The condition of the patient on admittance was very poor in eight cases, fair in one case, and good in one case. Records show that patients in the sixth decade of life, with poor cardiac and renal reserves, reported to the hospital so late that no method of treatment could be expected to succeed. Four of these patients were moribund on admittance.

Summary

Sixty three cases of sigmoid volvulus are reviewed. Methods for improving the mortality rate and decreasing recurrence rate are discussed.

Proctoscopic reduction, when followed in ten to fourteen days by resection and anastomosis, is a safe method of treatment which should be used more often.

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Discussion

Dr. E. R. Morgan (Shreveport): I should like to commend Dr. Levin on his presentation. In a short period of time he has outlined quite completely, a program of treatment for a troublesome, even sometimes fatal condition.

At Confederate Memorial Hospital here in Shreveport, 11 cases of volvulus of the sigmoid have been encountered since 1951. This period has been chosen because it lies well within the so called "antibiotic era". As Dr. Levin stated, a small number of cases is not statistically significant, but it does illustrate the methods used and within reason, the results obtained by these methods.

All of our patients were men. All were elderly, the average age being 67 years. The average duration of symptoms was three days and all of the patients presented themselves with a picture of intestinal obstruction.

In the plan of management, 6 of the 11 patients were sigmoidoscoped. Detorsion was accomplished by this method 3 times. In one, obstruction was encountered at 17 cm. which resulted in a correct diagnosis being made. In 2, sigmoidoscopy yielded no significant informa-

tion. This is another situation where the sigmoidoscope presents itself as a useful diagnostic and therapeutic instrument. Sigmoidoscopy definitely should be carried out if this condition is suspected.

Seven patients were taken to surgery. Five of the seven had a correct preoperative diagnosis. Such a high percentage was due to the fact that 3 had had recurrent episodes of volvulus which aided considerably in making a correct estimate of the patient's condition.

Three of those operated upon had simple detorsion as the method of treatment, and 4 had sigmoid resections.

Of those undergoing surgery, one expired four days postoperatively of a pulmonary embolus, and a second had a wound dehiscence which required reclosure of the abdomen.

Again, I should like to compliment Dr. Levin on his presentation and results which he has obtained. Much can, and is being done with a planned program of approach to this condition.

A Fish-hook Removed from the Esophagus without an Operation

Reported by Andrew R. Kilpatrick, M.D., Woodville, Miss.

In the summer of 1837, Mrs.* * * was enjoying her usual siesta in the afternoon of a warm day, on a pallet spread on the floor in a cool part of the house; and while she was lying on her back sleeping pleasantly, no doubt dreaming of past pleasures, her grandson, a little urchin of three or four summers, was playing about the house with a fishing tackle, complete, pole, line, and hook; who when he discovered the old lady with her mouth widely distended* * * cautiously deposited the "barbed hook" (I believe there was no bait on it) into the granddame's open mouth. The titilation caused her to awake suddenly and as her mouth was dry from exposure, she closed it, and swallowed the hook two or three inches below the uvula.

Some gentle efforts were essayed to remove the hook, both by the patient and some of the family; but being apprehensive of fixing the barb in the throat, they ceased all efforts, and despatched a messenger for Dr. E. Leroy Antony, who resided in the neighborhood.

His plan was to cut off the line within a foot or two of the mouth of the patient; then to drill a hole through a rifle bullet and drop it over the line, down on the hook. In order to fix the bullet on the point of the hook and maintain it firmly in that position, a reed was procured, the joints punched out and then passed down over the line, and pressed firmly over the bullet. In this manner, the hook, bullet, and reed, were all withdrawn at once, very easily, without any injury to the esophagus or fauces.

New Orleans M. J. 1:412, (March) 1845.

The Medical Aspects Of Juvenile Delinquency*

• A Report by the Louisiana Committee on Juvenile Delinquency for the American Academy of Pediatrics.

ROSS TILBURY, M. D.
Shreveport
CLIFFORD G. GRULEE, JR., M. D.
New Orleans

AT THE present time the number of young people apprehended by the police for delinquent behavior is increasing at an alarming rate. It has been estimated that there are 500,000 juvenile delinquents in this country. If the present trend continues there will be 1,000,000 juvenile delinquents by 1962. If this upward spiral is to be stopped it will require the cooperation and efforts of every citizen of every community. The National Committee, through the Academy of Pediatrics, recommended the formation of state committees for the study of juvenile delinquency.

Objectives of State Committee

This State Committee held its first meeting in Louisiana in the fall of 1957. Through the urgings of the National Committee it was the purpose of this State Committee: (1) To investigate and explore all agencies dealing with juvenile delinquency throughout the state in an effort to determine the role of physicians in juvenile delinquency; (2) to educate itself on the problems of juvenile delinquency; (3) to establish effectively liaison with other groups working on the problem of juvenile delinquency.

Surveys

The committee members were selected so that they represented the larger cities throughout the state. Each committee member conducted his own survey by interviewing judges, juvenile officials, city officials and lay groups in an attempt to get new ideas and information. As a result of this survey—first of all—the committee decided that juvenile delinquency was of such a broad scope that it would be necessary for the pediatricians to limit themselves to merely the medical aspect of delinquency. This survey revealed that there were many groups working throughout the community that had spent many years in attempting to combat juvenile delinquency that welcomed our inquiries and were especially cooperative in volunteering information. Some of the ideas that were born of this survey I will attempt to briefly cover in this report.

Recommendations

First, it was recommended that the formation of a consultive medical board for use by the court in each community might be of definite value. Because of the overloading of the guidance centers by cases that apparently take priority over these delinquency cases this consultive medical board will be of definite value. It would be made up possibly of pediatricians, psychiatrists, and general practitioners. If and when the court so desired, a complete examination and evaluation of any child brought before the court could be made.

One of the other ideas that came out of this survey was that counseling of parents in the bringing up of their children through P.T.A. meetings and parents meetings might be of definite value. It has been found that there has been a

* Presented at the Seventy-eighth Annual Meeting of the Louisiana State Medical Society, in Shreveport, May 6, 1958.

great deal of information published and many parents are confused by the masses of information.

Minnesota State Committee on Juvenile Delinquency

In February of 1958, the committee met with Doctor Albert Schroder, Chairman of the Minnesota State Committee on Juvenile Delinquency of the American Academy of Pediatrics. Doctor Schroder most kindly detailed the program of his group indicating that it had not involved an entirely independent program but had decided that it should interview at least three groups among the lay organizations in attempting to determine appropriate lines of action and to establish suitable liaison relationships. In addition, contacts were made with the agencies of Government, including the Juvenile Courts, with which the Committee established a referral system by which the Court could request careful medical examination of any child referred to it who did not have its own doctor and who was in need of such examination. They also had a conference with the Police Juvenile Division and established good working relationships with the Committee on Juvenile Affairs of the State Legislature. In order to stimulate interest at the local level, they contributed pediatric instructors for various police training courses in their state and strongly espoused and furthered dissemination of the teen-age code. This was done through P.T.A. groups after the children themselves had taken an active part in defining the conditions of the code after 170 communities represented by police officers and 5,000 school children had accepted the code. Each community or school adopts a code or not, as it sees fit, and having considered a model code as proposed by the state, modifies it to meet particular needs. In small communities where acceptance of the code is being contemplated by a school unit, the pediatricians make themselves available to introduce the material and whenever possible try to work with or through general practitioners. The Minnesota group has also caused to be published, without names, the offenses committed by juveniles each week.

Louisiana Youth Commission

In February, the Louisiana Committee met with the Louisiana Youth Commission for the purpose of trying to determine the role of pediatricians or physicians in combatting juvenile delinquency. One Commission member pointed out that the current juvenile code calls for complete history and physical examination on any child who comes under its jurisdiction. Juvenile court authorities were unable to implement this provision of the law in most instances and believe that a critical study of physical examinations under these circumstances should be made. It is their feeling that if it is really important, the provision of the law must be enforced, but if it is not vital, this provision of the law should be deleted. Two of the judges on the youth council, who have authority in courts which handle juveniles, expressed the great need for panels of pediatricians who would be willing to perform careful examinations at the request of the court. There was a general consensus that this was a desirable type of activity for pediatricians and that the committee should do whatever it could to implement such a suggestion.

The opinion was expressed by members of the Academy Committee that the counseling of parents concerning the bringing up of their children was an important and necessary type of activity. After considerable discussion, it was decided by the council that this interest in counseling services might very well inter-digitate with a suggested program of education requested by parent groups for public schools in the New Orleans area. It was decided that this effort with the parents would be planned jointly by Mr. Lawrence H. Higgins, Executive Director of the Commission, by members of the committee and, if successfully carried out might serve as a pattern for similar activities in other communities. The commission finally consented to furnish each member

of the committee with a volume just published by the commission which included information on all aspects of the juvenile code in matters pertaining to the legal handling of children in the State of Louisiana. The Secretary of the Louisiana State Youth Commission, stated one great need on a state-wide basis is a simplified structure among our courts for handling those juveniles who reach the courts. He pointed out that there are some 78 courts in the state, handling juveniles, that are presided over by judges of many different legal interests and talents. He stressed the need for a specialized form of courts and stated that much better handling of problems could be accomplished by some ten courts scattered through the state. The Youth Commission has full cooperation of the State Bar Association on this matter.

Mr. Higgins' second plan was for some type of diagnostic service in the schools where early detection could be made when the child begins to show abnormal behavior or progress. This should involve facilities for psychometric screening, detection of organic disease and psychiatric care when needed. Regional special schools and detention homes should be provided. He further pointed out that all this would be a saving to taxpayers.

National Conference

In February of 1958, the committee attended a National Conference on the "Child at Law." This was very educational from the standpoint of the mechanism for handling children in the courts, the history of the development of law affecting the juveniles, the method of awarding children in divorce cases, the causes of juvenile delinquency, behavior characteristics of the predelinquent child, and research that was being done on early diagnosis of the predelinquent child. The committee felt that this National Conference was of a great value in educating itself to deal with the problem of juvenile delinquency. The proceedings of this conference will be published in book form within the next few months.

Summary

The Committee on Juvenile Delinquency of the Louisiana State Chapter of the American Academy of Pediatrics has held several meetings since November, 1957, with the purpose of organizing its activities, sharing information concerning local circumstances in various parts of the State and in seeking appropriate areas of participation for pediatricians in reducing the problem of juvenile delinquency. The Committee endorses and hopes to promote the suggested types of physician participation in this field as brought out in a recent National Conference on "The Child at Law."

1. Early detection of the signs of maladjustment in children.
2. Referral to proper agencies to supplement their own advice.
3. To serve as a spearhead to see that the schools and cities provide proper institutions for juvenile delinquency.
4. To counsel parents and parent groups in the new ideas of managing and bringing up their children.
5. To develop intense interest in the social problems concerning juvenile delinquency in their own communities.

Tuberculosis: A Community Problem

• Although it would seem that this disease is not so common as in the past, the family physician must be just as tuberculosis conscious as ever. The goal now is not merely control but tuberculosis eradication.

SYDNEY JACOBS, M.D.
New Orleans

TUPERCULOSIS is a changing disease; fewer people die of it than ever before while proportionately more will live with it as a chronic disease; yet it remains a community problem. The probability of restoring a given patient to full social and economic usefulness is now greater than anyone could possibly have imagined ten or fifteen years ago. Family physicians attend now many patients who in an earlier decade would have been sent away to a tuberculosis sanatorium; some of these are treated a short time at home before being returned to work but others are not even kept away from work at any time while taking the specific antibiotics for the disease. So prevalent has become this type of practice that the observer is apt to see in the tuberculosis hospital or chest clinic today only those patients who have advanced or complicated disease or who are medically indigent.

Much of this change is good; some of it is not good. It is true that the dogmatism of a former generation of tuberculosis specialists has given way to the more liberal attitude of the general practitioner who now treats most of the patients with tuberculosis. It is also true that much individualization must and should be exercised in determing the type of treatment for a given patient. These considerations do not diminish the community responsibility in tuberculosis; for this disease to be eradicated, only the determined will of the community suffices. The relative ease with which symptoms can be abated and infectiousness prevented by administration of specific antibiotics should not blind us to the responsibility to be shared by the family physician, the public health worker, the general public and last—but by no means least of all—by the patient, himself.

Presented at the Third Annual Tuberculosis Work Conference, Southwest Region, New Iberia, Louisiana, November 10, 1958.

From the Department of Medicine, Tulane University School of Medicine.

The Family Physician Must Be Tuberculosis Conscious

Unwarranted optimism concerning tuberculosis still accounts for delay in diagnosis and institution of therapy. The practitioner knows that mortality rates have fallen and he seldom sees the obvious case of tuberculosis anymore; so he has been lulled into a false sense of security and tends not to think of the disease as occurring in his patients. This explains why, even to-day, the diagnosis may be established only when a chest film is taken during the course of an extensive physical survey and why tuberculosis in a woman is suspected only after her baby is found to have tuberculous meningitis. Such tragedies still occur. It becomes necessary frequently to remind the practising physician that even if tuberculosis is not as common as before, it is still as deadly; therefore it has to be sought insistently. Many of our older patients exhibit reactivations of lesions dormant many years; hence the necessity for periodic chest x-ray studies among our geriatrics patients. The diabetic, the malnourished, the person subjected to excessive stresses, the patient taking adrenal steroid hormones, the patient whose peptic ulcer necessitated subtotal gastrectomy are all especially apt to have tuberculosis and should be examined frequently with this in mind. It is amazing how frequently a lesion of tu-

berculosis is detected by x-ray examination and then completely neglected many years until extensive dissemination of the disease has occurred. No lesion of tuberculosis should ever be disregarded as "inactive" but should always be carefully observed years, rather than months, even when no therapy or restriction of activity seems warranted. The larger the lesion, the more prolonged the period of observation. It is most regrettable that many roentgenologists still interpret lesions as "inactive" on the basis of a single examination. The practitioner must beware the pitfalls of accepting too readily this optimistic opinion, because he will learn that unheralded and unattended exacerbations of the disease are most apt to stem from such "inactive" lesions. The most common cause of chronicity in tuberculosis is failure of treatment at the right time.

Public Health Demands Eradication Of Tuberculosis

It is not sufficient to speak of "tuberculosis control" any longer; the goal is "eradication". Eradication demands that the full campaign be continued in spite of public apathy and competition of other health demands, until there is no longer any tuberculosis left to treat. This is a formidable challenge because the less obvious tuberculosis becomes, the less apt is public interest to be. As before, case-finding is still of paramount importance. Cases cannot be reported to the health department until they have been detected. Because of the general fear of radiation hazards, mass x-ray campaigns have been curtailed; in replacement, contact examinations, tuberculin testing in schools, and routine hospital admission x-rays have yielded a significant number of new and previously undetected cases. The certification plan of the tuberculosis committee of the American School Health Association deserves the widest support for it makes possible a new approach with the added advantages of education amidst the school environment. Through the tracing of contacts of children recently converting from negative to positive tuberculin status, it is possible to uncover new cases before these can cause much harm in the community. It has been well established that patients attending hospitals are more apt to have tuberculosis than the population at large; such routine hospital admission chest x-rays offer a quick and relatively inexpensive method of early diagnosis.

After case finding there needs to be a consistent effort to provide treatment. There are still gaps in our program of isolation of the contagious patient. The problem of the recalcitrant patient has been widely aired, but comparatively few patients are recalcitrant at the start of their illness. If proper preventive measures are exercised early, and if public health administrators insidiously attempt to follow-up the initial diagnosis with adequate education to the patient, much objection to therapy can be forestalled.

What Must The Public Know?

The fight against tuberculosis has just begun. So long as people carry within their bodies live tubercle bacilli—and only the sensitivity to tuberculin shows this existence—such bacilli may at some time cause clinical tuberculosis. The probability for morbidity diminishes with passage of time, but it probably never entirely disappears. We do not know as yet how to rid an infected person entirely of contained bacilli although the hope of an antibiotic powerful enough to do this persists. There is moreover the threat that such baneful influence as nuclear energy may be responsible for potentiating otherwise dormant infection. In an earlier generation, the hope was to control the disease; now our hope is for a generation of uninfected persons.

Tuberculosis is still prevalent in lands outside the United States, lands visited often enough by Americans—on tour or in military service—to pose the constant threat of infection. The chance infection acquired abroad can be devastating. Literally "no one is safe until all are safe." Tuberculosis simply will not remain a localized menace.

The best way to continue the fight

against tuberculosis is to reinforce the current campaigns. Public participation in voluntary health movements was largely spearheaded by the Christmas Seal Sale efforts. The double-barred cross is yet the symbol of fight against tuberculosis; purchase of the Christmas Seals must be stimulated to disseminate as much as possible that degree of public information which will continue the fight.

Complacency is the greatest handicap in the campaign against tuberculosis. We cannot take for granted the gains made but must continue until the goal of complete eradication has been attained.

Rehabilitation

Restoring a patient to full social and economic usefulness on recovery from tuberculosis is matched by today's counterpart; preventing his becoming useless. Traditionally, emphasis was placed on recreational therapy to help him pass the long hours of convalescence and recovery and to encourage him so that he would not give up the fight; subsequently emphasis was laid on building his morale and training him for suitable work so that he might not be forced into the type of poorly remunerative work which would foster his reactivation. More recently, we have been impressed by the need for total rehabilitation, i.e., psychologic guidance in addition to the earlier aims. The "hard core" in tuberculosis is drawn from those at disadvantage physically, psychologically, and emotionally. Some of them are alcoholics, others narcotic addicts, and most of them are maladjusted or even overtly psychotic. Total rehabilitation is a much more demanding exercise than that of merely treating the pulmonary lesions, and yet it is tremendously needed to-day. It is quite possible that in the poorly understood field of physical-emotional relationships, social research will enable us to learn how these difficult cases may be more easily rehabilitated.

Certainly the patient has a responsibility; we cannot force him to accept therapy in defiance of his will, but we can induce many of the recalcitrants to undergo therapy if we learn the proper individual approach. The patient needs our support if he is to provide the proper co-operation. Frankly and repeatedly telling the patient what lies ahead of him in his fight for recovery is of inestimable value in stimulating him to assume his share of responsibility.

Summary

Tuberculosis is a community problem to be solved only by the combined efforts of the physician, the public health worker, the lay public, and the patient, himself.



Health of the City

The winter is past; and surely, in point of weather, it has been one of the most delightful ever experienced in this place. It has been for the most part, cool, fair, and dry, without any of those disagreeable extremes to which we are so often exposed at this season. From dismal fogs, excessive rains, and their necessary attendant *muddy streets*, we have been comparatively quite exempt. The *beau monde* has been unusually gay, notwithstanding the old complaint of "hard times" and the absence of the customary number of visitors to the city at this season; and but for the extraordinary reduction in value of the great staple of the country, and the consequent depression of every branch of business, the winter would be memorable as one of the most charming ever experienced in New Orleans.

New Orleans M. J. 1:505, (March) 1845.

The Causes of Trouble in the Management of Fractures*

• The author condenses into a short article the difficulties sometimes encountered by an orthopedic surgeon that may be due not only to poor judgment or carelessness in management, but to emotional reaction on the part of the patient.

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THE causes of trouble in the management of fractures are divided into those (1) due to injury, (2) associated with diagnosis, (3) with treatment, early and late, and (4) medicolegal.

Due To Injury

Among the causes of trouble from injury are: complicating damage to skin, nerve, vessels, muscle, tendon and ligament; dislocations and subluxations; compound fracture; wound infection; and emotional disturbances triggered by the injury with regression to immature behavior. The surgeon must contend with these problems by the best method to suit the individual case.

Associated With Diagnosis

Causes associated with diagnosis are failure to x-ray the injured part. In spite of x-ray equipment usually close at hand, compression fracture of a vertebral body is occasionally not recognized because x-ray examination was omitted. Conversely, too many x-ray exposures to epiphyseal regions in a child can inflict more damage to the extremity than failure to detect a fracture. An x-ray of the forearm which does not include the elbow may cause overlooking a dislocated radial head associated with fracture through the ulnar shaft. Insufficient views of the part also result in not visualizing pathology. For example, a notch view of the knee may show medial condylar defect or intercondylar bone fragment which is not apparent in anteroposterior, lateral, or axial views. In my opinion, the notch view must be routine. Although anteroposterior view of the ankle is negative, when the same ankle is held in a position of inversion while x-ray exposure is made, subluxation may be apparent due to lateral ligament tear. When symptoms persist, the part should be re-rayed since a fracture line is more easily seen two or three weeks after injury.

Early Treatment

There are many causes of trouble associated with early treatment. Failure to evaluate the patient with head injury may lead to loss of life while attempting to save a limb. Prompt relief of vascular occlusion caused by displaced supracondylar fracture will reduce swelling and lessen the chances for complications of this injury. Likewise, relief of pressure upon nerves is essential, such as epiphyseal fracture of the medial humeral epicondyle when displaced against the ulnar nerve. Too much attention to anatomical reduction of femoral shaft fracture in a child may give disastrous results of perineal injury and necrosis to dorsum of foot from forceful traction. Conversely, too little attention to anatomical x-ray reduction of a rotated lateral humeral condylar epiphysis causes retardation of growth of the lateral humerus with gradual cubitus valgus deformity. Local infiltration for fracture manipulation is not without hazard; fingers have become gangrenous after local infiltration at the base and rarely an entire hand is lost following infiltration into the hematoma for reducing Colles'

* Presented at the Seventy-eighth Annual Meeting of the Louisiana State Medical Society, in Shreveport, La., May 7, 1958.

fracture. Needless sacrifice of skin and bone during debridement of a compound fracture creates problems of magnitude for the surgeon who must carry out later reconstruction. Distraction of fragments delays union and one must be ever vigilant to avoid such separation during prolonged traction or at time of open reduction and internal fixation. Fractures where impacting forces prevail rarely require open reduction, and conversely, fractures where shearing forces prevail usually do need open reduction. This point is well illustrated by abduction fracture of the femoral neck, which usually heals without treatment, as contrasted with the adduction fracture (shearing force) which requires operation and internal fixation. Poor reduction of fractures involving weight bearing articular surfaces may necessitate later arthrodesis. Insufficient skeletal immobilization not only predisposes to displacement of the fracture within the cast, but may also delay union by permitting motion within the cast. Needless immobilization of uninvolved joints can lead to more disability than had the fracture not been reduced. It is interesting to examine an unreduced Colles' fracture many years after injury which was never attended by a physician and to observe that in spite of deformity, the patient preserved finger and thumb motions; in contrast is the perfectly reduced Colles' fracture with a permanently stiffened hand because no attention was given to active motion of the uninvolved digital joints. One who has witnessed this calamity is deeply impressed with the importance of exercising all uninvolved joints. Too short time of immobilization in shaft fractures of weight bearing bones, especially in children, results in gradual angulation at the fracture site which occurs insidiously.

Late Treatment

Causes of trouble in the later stages of treatment are failure to re-ray when pain or stiffness persists after cast removal. Sudek's atrophy distal to the fracture site is more commonly responsible for prolonged disability than we appreciate. Also, aseptic necrosis of the semilunar bone following wrist injury is occasionally detected by x-ray as the cause for prolonged disability. Passive stretching of stiffened joints must be avoided because it invariably leads to increased stiffening. Fractures cannot be treated from x-ray findings alone; recently I reviewed an x-ray of the middle femoral shaft with an intramedullary nail in place. Both anteroposterior and lateral views of the old fracture site were consistent with bony union; however, clinically, a ball and socket nonunion existed and the entire distal fragment could be rotated 180° upon the nail.

Medicolegal

This discussion would not be complete unless some mention were made of the events which may bring about legal trouble for doctors who treat fractures. One of these is failure to inspect the cast when the patient complains of discomfort. The physician who has discovered a pressure sore or a constricting cast only once will gladly inspect many casts with negative findings. X-ray immediately after reduction and then again between one and two weeks later is important for early detection of displacement of fracture or dislocation which occurs within the cast. Medical information released without the patient's written consent may cause dispute between doctor and patient at a later date because of misunderstanding about verbal permission. Incomplete office records and not retaining copies of released medical reports are invitations to trouble. Failure to itemize bills, and waiting until the end of extensive medical treatment to present the bill for services rendered may stir up hostility in both doctor and patient. Lastly, condemning another physician's work without detailed knowledge of all the facts initiates a lengthy, undesirable dispute between physicians. When in doubt as to what to do or say, the application of the Golden Rule is always proper.

Elective Induction of Labor; A Comparison With Spontaneous Labor

• The author compares the results obtained in 300 cases of induced labor with those in 300 cases of spontaneous labor.

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IN the past ten to fifteen years induction of labor has become increasingly common, especially elective induction of labor in private patients at or near term. During 1957, at Southern Baptist Hospital there were over 4,000 deliveries and 20 per cent of these patients had labor induced. In 1953, the percentage of inductions was 16 per cent.

Because of the increasing incidence of elective inductions it was felt that an evaluation of the safety of this procedure as compared with spontaneous labor would be of value.

Advantages and Indications

Elective induction of labor in normal uncomplicated cases, at or near term has been a subject of much controversy. Many obstetricians believe that the only indications for induction are strictly medical or obstetrical; while other equally prominent doctors believe that in properly selected patients, elective induction constitutes a notable advance in modern obstetrics. Mathiu says, "The woman at term who is suffering distress and discomfort due to pressure pains, insomnia, and nervous anxiety should not be permitted to reach the stage of exhaustion merely because one wishes to let nature take its course".

Other advantages of elective induction are:

1. Removal of the dangers and hazards of precipitous labor, unattended and outside the hospital brought about by the increasing trend to suburban living with the concurrent increase in time required to reach the hospital.

2. Removal of the danger of possibly having to receive an anesthetic shortly after eating and thereby minimizing the danger of aspiration of gastric contents.

3. Patients can be properly prepared and delivered under the best conditions:

(a) multiparae can arrange to have their children cared for by relatives or friends and can arrive at the hospital in a relaxed and unhurried condition.

(b) The obstetrician is able to give his undivided attention with a planned schedule and, when his skill is most needed, he is not mentally and/or physically tired.

(c) The baby arrives during the daytime hours when the hospital is fully staffed; so that any special tests or treatments (Blood for mother; Rh, Coombs', exchange transfusions, etc.) that may be needed can be done promptly and skillfully.

The conditions that must be present for elective induction to be done with safety are:

1. Pregnancy must be at or near term.
2. There must be no cephalopelvic disproportion.
3. The presentation should be vertex.
4. The head should be engaged; preferably with the presenting part at a station minus 1 or lower in the pelvis.
5. The cervix must be ripe; that is partially effaced, soft, and at least two centimeters dilated.

The "ripeness" of the cervix cannot be adequately evaluated by rectal examina-

* Presented at the Seventy-eighth Annual Meeting of the Louisiana State Medical Society, Shreveport, May 7, 1958.

tion. Therefore, during the last month of pregnancy in a patient in whom elective induction of labor is contemplated, the condition of the cervix is evaluated in the office by vaginal examination, using clean gloves but without a sterile preparation of the vagina. No adverse effects from this procedure have been observed.

The length of pregnancy must be checked carefully to guard against possibly inducing premature labor. Not only the EDG is calculated from the last menstrual period, but also the number of weeks past the occurrence of active fetal movement is computed. In general, we do not induct primiparae sooner than eighteen weeks after active fetal movement is felt and multiparae, not before twenty weeks have elapsed since quickening occurred.

Method of Induction

Our method in inducing labor is to have the patient enter the hospital early in the morning without having eaten breakfast. The patient is given the usual obstetrical preparation and enema. After this, a dilute solution of pitocin (10 minims pitocin per 1000 cc. 5% glucose water) is started intravenously at a rate of 20 to 30 drops per minute and adjusted throughout labor depending on the patient's response. We find this dilution of pitocin as effective as the more concentrated solutions, and have encountered no tetanic uterine contractions such as sometimes occur with stronger solutions.

After uterine contractions are well established the vagina is prepared and under sterile conditions, the membranes are ruptured and the amniotic fluid allowed to drain off. The pitocin infusion is continued throughout labor, being slowed after the baby is delivered and being speeded after the placenta delivers, and is allowed to run until the entire 1000 cc. has been received, usually lasting several hours after delivery.

Lag Phase

For the purpose of this study, the beginning of the lag phase was taken as the time the pitocin drip was started, and the end of the lag phase as the first examination of the patient that showed increased cervical dilatation or effacement. This made the lag phase somewhat longer than it actually was, because on most occasions the patient was not examined at the precise time that cervical dilatation was beginning.

In this review 300 consecutive elective inductions are compared with 300 spontaneous labors occurring during the same time interval. Our incidence of induction during this period was 48 per cent. In the early part of the review, there were 61 inductions by small doses of pitocin given intramuscularly at twenty-minute intervals. These have been included with the intravenous inductions as the results were identical.

First, let us consider the length of the lag phase by parity of the patient. For primiparae the average lag phase was fifty-three minutes; for para 1 forty-six minutes; for para 2, thirty-six minutes; for para 3, forty-seven minutes; for para 4, thirty-six minutes; and for para 5 plus, ninety-seven minutes. Thus, we see that the parity of the patient does not influence the lag phase.

However, the dilatation of the cervix at the beginning of induction had a definite influence. When the dilatation was 1 cm., the lag phase was eighty minutes; at 2 cm. dilatation, the lag phase lasted fifty-eight minutes; at 3 cm., forty-four minutes; at 4 cm., thirty minutes; and at 5 cm. was twenty-eight minutes. The more the dilatation at the start of induction, the shorter the length of the lag phase.

Duration of Labor

The duration of labor was shorter in the induced group than in the spontaneous group. The average length of labor in all inductions was 3.4 hours as compared to 7.5 hours in the spontaneous group. For para 0, labor averaged 4.7 hours in the induced and 9.7 hours in the spontaneous labors. For para 1, 2.9 hours versus 6.0 hours; for para 2, 3.0 hours versus 6.9; for para 3, 3.4 hours versus

6.0 hours; for para 4, 2.8 hours versus 6.8 hours; and for para 5 or more, 2.8 hours as compared to 3.0 hours in the spontaneous labors.

Thus, we have seen that the more favorable the cervix the shorter the lag period, and in all patients the duration of induced labor was shorter than in spontaneous labor. This shortening of labor is not unexpected when one considers that the induced group was a highly selected group; many of the uninduced went into labor with an unripe cervix and would be expected to have a longer labor.

Results

In the induced group, there were 9 labors classified as fair mechanisms and 3 as poor; while in the spontaneous group many patients had poor labors, which required stimulation by pitocin to complete the delivery.

There were no premature babies in the induced group (only two weighed less than 6 pounds; both weighed 5 pounds 13 ounces), showing that with care the induction of premature labor can be avoided.

Others writing on induction have found an increased incidence of postpartum bleeding. This was not evident in this series. In the induced group, there were 4 patients who had postpartum bleeding (including 2 hematomas) and 16 patients had moderate bleeding in the third stage of labor; there were 2 postpartum bleeders, 17 moderate and 1 heavy bleeding during the third stage in the spontaneous group. The fact that we did not encounter more postpartum bleeding may be explained by our practice of continuing the pitocin infusion after delivery.

In passing, the following presentations and positions were noted in the entire group, being similar in both induced and spontaneous labor: LOA 48 per cent; ROP 20 per cent; ROA 18 per cent; LOP 10 per cent; LOT 2 per cent; ROT 2 per cent. There were 4 sets of twins.

There were 3 breech presentations (2 were second twins) in the induced and 9 in the spontaneous group.

Of the positions other than OA, 88 per cent spontaneously rotated to OA and the remainder were rotated by manual or forceps rotation. The occurrence of unfavorable positions and failure of internal rotation were identical in both the spontaneous and induced labors.

The complications of labor and the puerperium were essentially the same in both induced and spontaneous labor. The incidence of forceps delivery was 27 per cent in the induced and 26 per cent in the spontaneous labors, most of these being elective low forceps deliveries. There were 3 abruptios (2 fetal deaths) in the spontaneous, while none occurred in the induced group. However, 2 induced patients were delivered by Cesarean section because of occult prolapse of the cord which might not have occurred had labor started spontaneously.

The number of lacerations, perineal infections, morbidity and other postpartum mishaps were quite similar in the two groups.

The babies of the induced group fared very well; there were no perinatal deaths. In the spontaneous group, there were 4 (2 due to abruptio and 2 to prematurity) plus one stillbirth. There were 2 cephalhematomas in the induced labors and 1 fractured clavicle in the spontaneous group. These were the only fetal complications that could be attributed either to the labor or delivery.

Conclusions

Thus, we see that induced labor is as safe as spontaneous labor for both the mother and child; the length of labor is shortened in induced labor and the mother thereby saved some pain and physical exertion during labor and also spared the discomfort of the final several weeks of pregnancy. The delivery can be accomplished under ideal conditions for both the patient and physician.

It would appear that the only point against elective induction of labor in properly selected patients is a legal and moral issue. While there have been no court decisions on this matter, it is held by the legal division of the American Medical Association that "if anything goes

wrong as a result of the procedure the physician may be held fully liable".

If the doctor carefully selects patients for induction of labor according to the accepted standards, it would appear from this and other reviews that complications will occur only rarely and with no more frequency than in spontaneous labor.

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Discussion

Dr. Edwin E. Dilworth (Shreveport): Dr. Scheppegrell is to be congratulated on his choice of subject and his presentation. As a matter of fact the publication of this excellent paper in our state medical journal should have some weight in clearing the one point left unsettled—the legal one. Until this point is cleared the doctor doing elective induction must be fully qualified to treat personally any complication that might arise in connection with the labor and delivery of these selected patients.

Elective induction of labor is an obstetrical procedure that has been trying to find its place for several years. In a way it reminds me of the controversy when Simpson first suggested anesthesia for delivery and the more recent one of episiotomy and prophylactic low forceps delivery. It appears to me that any technique which has been so well accepted by patients and doctors alike is here to stay. Especially is this true when controlled reports such as we have had today prove its safety when properly used.

Assuming then that the value of elective induction of labor is established we should continue to emphasize the potential hazards. Because of the time limitation I will mention only the two possible complications that have not had the respect they deserve. The first is some degree of anoxia of the fetus that may result from Pitocin interference with complete relaxation of the uterus between contractions. This condition is quite variable in its severity and the full effects might not be recognized for years. It is my feeling that if induction will go well without the Pitocin it is better left off, or after labor is well established discontinue the infusion. This complication of fetal anoxia is often not mentioned on the delivery record or the baby's chart because of its apparent mildness. It is therefore difficult for any study to report the true incidence. The second possible hazard is likewise related to Pitocin and has been only recently appreciated. That is the development of a fibrinogen defect with resulting post partum hemorrhage. The mechanism of this is amniotic fluid embolism due to the more forceful uterine contractions.

Historical Notes

Congestive Fever, with primary prostration of vital and cerebral energy: fatal termination on the fifth day.

Modus Medendi. Gave him a full portion of calomel quinine, and oil of black pepper every three hours* * * besides sinapisms freely applied to the epigastrum and to the extremities: warm toddy with small quantity of capsicum and camphor administered occasionally; anodyne and stimulating enemata of gruel medicated with brandy, laudanum and camphor; subsequently a large blister was applied to the epigastrium.

Towards evening of the 13th of July, finding that all my efforts to rouse the circulation by internal and external stimulants had failed, I opened a vein in hopes of relieving the circulation. After about five ounces of black blood had been withdrawn, the pulse appeared to fail and the arm was tied up.

The author concludes: The well known and acknowledged fatality attending the ultracalomel and irritating course of treatment, may well tempt the inquiring mind to seek a more successful mode of cure.

New Orleans M. J. 1:259 (January) 1845.

Office Audiology*

• This is a thorough resumé of tests for detecting and differentiating impairment of hearing with evaluation of the patient's needs.

A. DENBO MONTGOMERY, M.D.
Lafayette

FOR years the evaluation of hearing was not reliable and hearing tests were not standardized. With the advent of the vacuum tube and then the audiometer calibrated in sensations of loudness—the decibel—graphic reliable reports could be made.

At first, we tested only for the presence of hearing. Then the differentiation between conductive and nerve deafness was necessary. We measured only the hearing loss rather than the actual hearing that was present. Today, the general public is very cogniscent of this negligent sense-hearing and the scope of our field has enlarged tremendously. "The development of hearing tests has followed the clinical needs on the part of the otologist for more information which would contribute to a complete diagnosis, and therefore make the therapy more intelligent." (McLaurin) The scope of the otoloryngologist now includes a very large field: tests of acuity and differentiation of conductive and nerve impairments, development of awareness of test behavior of patients with non-organic losses, diagnosis of end-organ impairments, evaluation of the patient's needs and suitability for amplification, and testing of the very young child.

Today, it is necessary to know the site of the hearing defect, whether it be in the conductive system, the end-organ or at a higher central level.

Tests of Acuity and Differentiation of Conductive and Nerve Impairments

There are many nonelectronic hearing tests that are available. The watch tick test which was used for years is inaccurate but may be used for screening. The whispered voice test has many variations, the examiner's voice and the background noise. These tests are inaccurate and are difficult to record. In the Weber test, a 512 tuning fork is held against the vertex of the skull. In a unilateral conductive loss, the sound is heard in the poorer hearing ear. In a unilateral perceptive loss, the sound is heard in the better hearing ear. This test is very limited. The Rinne test is a comparison of air conduction and bone conduction. The length of time a patient hears a tuning fork by air is compared with the time heard by bone. The response is called a positive Rinne; whereas in a normal ear the fork is heard longer by air, than by bone. A positive Rinne may be present in an ear with perceptive loss though the length of time the fork is heard is less. In a negative or equal Rinne, bone conduction is longer or equal to air conduction. In the Schwabach test the bone conduction of the patient is compared with a normal or that of the examiner's. With this test one can estimate the function of the cochlear.

A standard audiometer is used to determine pure tones. Pure tone testing methods have been standardized, and inexpensive instruments to perform these tests are available. With the pure tone audiometer, one measures a patient's hearing loss and not the hearing that is present. The ascending method is used for the threshold. If the difference between the two ears in air conduction is greater than 30 decibels, masking is used on the better ear. One has to be very careful that a "shadow curve" is not present.

* Presented at the Seventy-eighth Annual Meeting of the Louisiana State Medical Society, Shreveport, May 7, 1958.

Bone conduction audiometry is performed with the bone conductor placed against the mastoid antrum. Masking is necessary for the skull easily transmits sound from one ear to the other.

Only in the last number of years have speech tests been standardized and measured, although more complex equipment is necessary. Whereas pure tone audiometry measures the function of the end-organ, speech audiometry measures the total problem of receiving and comprehending complex words. In every day life we are not interested in tones, but in words.

The speech test material has been vigilantly and carefully worked out. The words are usually given by live voice at different degrees of amplification. The audiologist uses a meter so that words are fairly constantly given. The patient receives these words through either a head set or through amplification, in which a loud speaker is used and then it is known as a "free field". The test for the speech reception threshold is at that intensity where 50 per cent of the words are correctly understood, reported in intensity of the sound-the decibel. The words are called "spondees" which means that the two syllables of each word are equally stressed. This test can be delivered with records or by tape but live voice is best. The pure tone frequencies of 500, 1000, and 2000 usually correspond very closely with the speech reception threshold.

The speech discrimination test uses one syllable words that are phonetically balanced or a P B word list on which words are difficult to understand. The purpose of this test is to determine the patient's ability to make fine discrimination. These words are delivered at least 25 decibels above the speech reception threshold and the score rated on the basis of the number of words repeated correctly. This test is expressed in percentages. Generally, but not always, the patient with a nerve loss by pure tone audiometric tests has poor discrimination ability.

Development of Awareness of Test Behavior of Patients With Nonorganic Losses

Repeated threshold tests for malingering are not always reliable for some subjects can repeat simulated thresholds with remarkable accuracy. However, this test is still important, for inconsistent threshold determinations on repeated tests are sometimes significant. One should be able to obtain a "shadow curve" in the good ear, when masking is not used, in testing the supposedly deafened ear with pure tone audiometry.

Ballenger states that the Stenger test:

"is used for the detection of a simulated total unilateral deafness. It is based on the fact that a preponderance of sound of a certain pitch in one ear eliminates the perception for sound of the same pitch in the opposite ear. The test is made as follows: The patient is blindfolded. Two forks of the same pitch and intensity are selected. The hearing distance of the good ear for one of the forks is carefully determined. The fork is then struck and held one inch from the bad ear. The patient in all probability will deny hearing it. If he does so the second fork is struck and slowly brought toward the good ear. With equal hearing in both ears and with both forks vibrating with the same intensity the patient will not hear the fork in the good ear until it is in the same relative position (one inch) as the fork held before the allegedly bad ear. If the patient is really deaf in one ear the fork should be heard at a greater distance in the good ear."

This test can be performed with an audiometer.

The Lombard test is based on the principle that a normal individual will increase the loudness of his voice in the presence of loud masking sounds. As the suspected malingerer reads aloud, masking is applied to the good ear. If the patient's voice is unchanged in loudness, then we suspect that the simulated deafened ear is monitoring his speech.

Diagnosis of End-Organ Impairments

Methods of determining end-organ impairment have already been given.

Recruitment, which occurs in perceptive deafness, is probably in the organ of Corti. Fowler's phenomenon of recruitment means that in a deafened ear, the sound stimuli is heard as well at high intensities

of sound as in the good ear. An example of this is in the nerve deafened person, who cannot hear you at normal intensities of sound, but says you are shouting when you raise your voice. Recruitment is a means of differentiating lesions of the organ of Corti from conductive deafness, and lesions of the acoustic nerve. In practice, if a patient has perceptive loss in only one ear, the alternate binaural loudness balance test for recruitment can easily be performed. But in patients with bilateral perceptive deafness the same testing cannot be done. Reger described the clinical application of the monaural loudness balance test in which only one frequency in the ear to be tested must be normal.

Hedgecock states that:

"tests for speech discrimination at levels above threshold also are useful in determining the presence of recruitment." * * * "it may be noted that persons with normal hearing as well as those with conductive and mixed deafness understand a relatively high percentage of the speech presented at a comfortable loudness. It is evident also that as intensity is increased above the comfortable level for this group of listeners the ability to distinguish words is maintained and even tends to increase with added loudness. In contrast to this, the discrimination curve for persons with end-organ deafness show poor understanding of words even at the optimal intensity, and as intensity is increased beyond this level the ability to distinguish words decreases further. While this situation may obtain for any type of deafness that is extremely severe, it is felt that its occurrence in cases of moderate and moderately severe deafness is an indication of recruitment."

Evaluation of the Patient's Needs and Suitability for Amplification

Guilford and Haug state:

"the ideal candidate for hearing aid has an average loss of hearing of 30 db. or more in the better ear; absence of recruitment and tolerance problems for amplification; non-infected external auditory canal, middle ear, or mastoid process, and satisfactory discrimination ability, and he is psychologically prepared to adjust to the associated early noise discomfort, as well as to the supposed 'stigma' of wearing an auditory prosthetic device."

A very good candidate for a hearing aid is a patient with a conductive loss which shows a flat audiogram, for this patient only needs to have the sound level raised. His test for discrimination ability is very good. On the other hand, patients with nerve loss or poor discrimination ability have poorer or no results at all with a hearing aid. Many of these patients have additional problems that interfere with the use of a hearing aid such as tolerance for loud sounds and recruitment.

Testing of the Very Young Child

Myklebust says that there are three steps entailed in making a differential diagnosis of auditory disorders in children. Step one is the differential history, step two is the clinical observation and evaluation of behavioral symptomology and step three is the examination. He says:

"most of the children having auditory disorders in early life are nonverbal children. The application of any tests to this group is difficult because of their age, because they lack ability to communicate verbally, and because they usually cannot comprehend language auditorially."

The general differential diagnosis of these very young children is: (1) peripheral deafness, (2) aphasia, (3) psychic deafness, and (4) mental deficiency. Noise maker tests are used in a free field. These noise toys are calibrated as to frequency so that adequate range is included. The intensity is also determined at different distances from the patient. For example, as the child is engaged in some game a noise maker is sounded in the background. A "cessation of activity" is considered evidence of hearing. Of course many modifications of this type of testing are used and sometimes necessary.

By use of a rewarding system, sometimes a pure tone audiometer may be used. If the child believes he is playing a game, he will be rewarded on hearing a pure tone by ringing a bell, placing a block on top of another, etc.

With the speech reception threshold simple spondee words are given, as "cowboy", "hot dog", "airplane." On a table in front of the child are toys that correspond to these words. On hearing "airplane" the child points or picks up the appropriate toy.

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Discussion

Dr. Thomas P. Raggio (Baton Rouge) Very little needs to be added to Dr. Montgomery's very excellent and timely presentation. Office audiology has perhaps been neglected or undertaken half heartedly by many of us in the past, but its present day ever increasing need makes it imperative that we avail ourselves of all the knowledge and facilities possible to better evaluate and rehabilitate the hearing problem patient.

Mention has been made of the evaluation of the pre-school child. Since most bilateral hearing impairments are detected at a very early age, treatment can and should be begun at once. Parents should speak directly to the child to enable development of lip reading ability and the idea of forming words with the lips, mouth, and tongue. If hearing is extremely poor, the child may be fitted with a hearing aid at a very early age. When the child reaches the age that more complete audiometry may be done, he will have had the opportunity to develop speech cadence and some degree of normal speech. He may then be directed along whatever channels of therapy are indicated, whether it be a hearing aid alone or formal speech therapy and auditory training. The important point is that treatment be begun as soon as hearing loss is suspected.

The general public through its own medical publications, such as Reader's Digest, Ladies Home Journal, et cetera, has become more cognizant of hearing problems and the things that can be done and is beating a path to the doors of otologists for cures. Those being most neglected are perhaps the aged and younger persons with inflammatory, traumatic, or industrial perceptive hearing losses. Pure tone audiometry alone is not sufficient for evaluation. Many a person with a perceptive hearing loss below 30 decibels has been told that he could not use a hearing aid and is left to grope his way in a silent world. Many of these people may be rehabilitated. Speech autiometry should be done and if discrimination is above 50 per cent there is some hope, regardless of the threshold level. A comfortable loudness level should be done and if the curve is flat, the patient may be encouraged that a hearing aid will help. It must be remembered that a hearing aid is only an aid and there must be some basic hearing ability to function. A comfortable loudness curve which drops off for the higher frequencies would make one suspect that that individual would experience recruitment with a hearing aid and therefore be unsatisfactory. In this event, the person should have speech therapy and auditory training. A hearing aid ear piece may be worn as a dummy which would indicate to others that this individual is hard of hearing and just allowances could be made. The door of hope for some rehabilitation should never be closed.

Inasmuch as very few audiologists maintain a supply of hearing aids for testing purposes, patients must necessarily be sent to manufacturer's representatives or dealers. Many a hopeful hearing aid recipient has become disillusioned about the value of his aid and discarded it. Perhaps most of these could have been happily rehabilitated had proper fitting and instruction been given at the onset. A hearing aid should not be put on and worn like a new suit, but only a few minutes at a time at first, then gradually increase the time until comfortably worn all day. Maintenance of the mechanical features presents

another problem to the new user. Both problems become non-existent if a competent and reliable dealer is recommended, or if the patient returns to his physician for instruction.

Deafness as the result of industrial noise is increasing in this industrial and jet age. Audiologists should be primarily concerned with the prevention of this type of hearing loss. Acoustic trauma results from exposure to loud noises in the range of 80 to 100 decibels. Prolonged exposure to this intensity results in permanent cochlear damage in susceptible individuals. Once this occurs the treatment is the same as for any perceptive hearing loss. Audiologists who are associated with industry would do well to insist on pre-placement audiometry for all employees. Those occupied in an environmental noise level above 50 to 60 decibels should have audiometry every six months. This should include not only pure tone threshold, but also speech threshold and discrimination. Frequencies in the range of 1000 cycles per second and above are the least well tolerated at greater intensities over a long period of time and the deterioration of perception for the higher frequencies which had not been present previously would indicate the beginning of noise damage. Such a person should be removed to a less noisy environment. The time required for damage to the auditory apparatus to occur varies with each individual, but is a product of intensity, its spectrum, its time pattern, and the duration of an individual's exposure. Careful watching and evaluation by the audiologist to prevent serious and permanent damage is certainly more gratifying than any type of treatment.

The Louisiana Medical College

This institution was chartered by the Legislature in 1835. Six physicians, whose names were given, were incorporated into a body politic, with authority to adopt a systematic course of medical instruction, to confer honorary degrees, and to fill all vacancies that might occur in their ranks. The Governor of the State, together with several other high official functionaries, and a few influential citizens, were constituted a Board of Trustees, but were only authorized to extend their patronizing influence over the infant Institution. The Medical Faculty of the College are now a self-constituted body, and have a right to manage it in any manner they may think proper.

The Faculty laboured under great disadvantages from its commencement, for want of a suitable house in which to deliver lectures; but this defect is now remedied, and they have a beautiful edifice, erected during the past year, possessing every convenience necessary to this object. It is situated on a portion of the Capitol Square fronting on Common Street—the facade being adorned with two very rich Corinthian columns. It contains on the ground floor a large and well arranged Lecture Room, capable of holding at least 200 students; to which is conveniently attached the Chemical Laboratory—also two smaller rooms, appropriated to the purposes of a Library and Reading Room. On the second floor is a large room which contains the Museum, besides two smaller rooms and the Amphitheatre. On the third floor is the Dissecting Room.

The Medical Class the past season consisted of 65 Matriculants. The graduates in Medicine for the Session of 1843-1844 were 12.

New Orleans M. J. 1:71 (May to July) 1844.

Some Recent Advancements in the Surgery of Retinal Detachment*

• The authors conclude that in spite of advancements in diagnostic evaluation and surgical technique there is no room for complacency in any present day method of surgical therapy.

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CHARLES E. CLARK, M. D.
New Orleans

A DEFINITE improvement in the results of the surgical treatment of retinal detachments has been achieved in the past several years. Some success can now be obtained in certain unfavorable cases, which most of us, until recently, would have considered hopeless or inoperable.

The development of better methods of examination and of better surgical procedures accounts for the improvement in results. The success of any detachment operation largely depends upon the accurate localization of all of the retinal breaks. By use of indirect ophthalmoscopy combined with scleral indentation we are able to localize more of the breaks, particularly those of the far periphery of the fundus.[1] The brilliant illuminating system of the binocular indirect ophthalmoscope is a great aid in the examination of eyes with cloudy media. In addition, slit lamp examination of the deep vitreous and of the retina helps us evaluate our cases more accurately.

Criteria for Success of Surgery

Although these improved methods of examination are very important, the purpose of this paper is to discuss the advancements of the surgical treatment of retinal detachment. But before discussing particular surgical methods the four criteria for success of retinal detachment surgery, because of their importance will be reviewed. These criteria are:

1. All of the retinal breaks must be isolated from the normal retina.
2. An adequate reaction must be obtained between the choroid and the retina.
3. The subretinal fluid must be drained.
4. Any opposing force, such as pull from the vitreous, must be counteracted.

The extreme importance of the fourth criterion cannot be overemphasized. We must be aware of the signs of traction on the retina, and when these signs are present the surgical treatment must be such that this pull can be counteracted. Most of the newer surgical procedures have been designed to overcome, or help counteract this opposing force of the vitreous. The importance of the vitreous body in the etiology of many of our cases of retinal detachment is becoming increasingly apparent.

We would direct your attention to the excellent article on the role of the vitreous that was written by Doctors Teng and Chi.[2] They have done an excellent piece of work to demonstrate the types of liquefaction of the vitreous and the role that this liquefaction of vitreous, plus vitreo-retinal adhesions and the precipitating factor of motion, play in the development of retinal detachment.

Plans of Treatment

Five or six years ago we treated most of our cases initially by diathermy around the retinal holes or by a barrage of diathermy to wall off the area of the holes

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* Presented at the Seventy-eighth Annual Meeting of the Louisiana State Medical Society, in Shreveport, May 6, 1958.

† From the Victor C. Smith Memorial Eye Clinic, New Orleans, Louisiana.

from the posterior retina. In those cases in which the retina did not settle back after the subretinal fluid was drained, we attempted to push the retina back into contact with the diathermized choroid by injecting saline or air into the vitreous body. A fair percentage of success was achieved by this method. However, many cases of high myopia, traumatic detachments, detachments of the retina in aphakic eyes, and retinal detachments that had been present for a long period of time were not helped.

In the more desperate cases, and those in which repeated diathermy treatments had not been successful, we occasionally resorted to the full thickness scleral resection operation. Although this procedure was helpful in a few cases it was far from satisfactory. The procedure was fraught with complications. In many cases there was loss of vitreous or intraocular hemorrhage.

We soon abandoned the full thickness scleral resection in favor of the laminated scleral resection. This operation is much easier to perform and the frequency of complications is much less. Initially we performed the laminated scleral resection as a substitution for the full thickness scleral resection. We adopted this procedure initially as a method of shortening the sclera in the equatorial region.

It was soon noted that advantage could be gained by the roll of thin sclera that was buckled inward when the resected area of the sclera was closed with sutures. This helped push the choroid up to the retina. Because of these advantages we started using the laminated scleral resection as a primary means of treatment of retinal detachment, especially in retinal detachments in aphakic eyes. A study of our cases seemed to indicate that it was not the shortening of the sclera that was helping us so much as the buckling up of the choroid to the retina to form a better and earlier union between the two.

A laminated scleral resection combined with diathermy in the base of the resected sclera was helpful in many cases but there were some cases in which the roll of sclera was not high enough to insure an adequate reaction between the retina and the choroid. For this reason we then followed the precepts set down by The Retina Service of the Massachusetts Eye and Ear Infirmary by incorporating a polyethylene tube within the resected area in order to give a longer lasting and a higher buckle.

Still there were cases in which the buckle was not high enough to insure an adequate reaction between the choroid and the retina. Again we followed the footsteps of the Schepens group by performing the scleral buckling procedure combined with a completely encircling polyethylene tube.[3] In this procedure the polyethylene tube is buried within the resected area while outside the resected area a suture that has been threaded through the tube is tied down to insure a higher and longer lasting buckle. The height of the buckle can be brought to the desired level, provided there is sufficient fluid to be drained.

Laminated Scleral Resection

We have not abandoned any of the procedures that we previously mentioned, with the exception of the full thickness scleral resection. However, we do feel more confident after having performed a laminated scleral resection that has been combined with an encircling polyethylene tube. This is definitely our procedure of choice in the cases in which it can be done. There are certain cases of retinal detachment in which the procedure is not feasible. These will be pointed out later.

Our preference for the laminated scleral resection combined with an encircling polyethylene tube is based upon the following reasons: [3]

1. A minimum of diathermy is required in the base of the resected sclera. Because this area is practically on the choroid we can get a more diffuse and less severe, but adequate, reaction in the choroid with much less diathermy than when the diathermy must be placed through the entire scleral thickness.

2. This treated area of choroid can then be pushed up to the retina to insure

closure or isolation of the breaks from the normal retina at the time of surgery.

3. Because of this immediate coaptation of treated choroid with the retina, the postoperative bed rest can be kept at a minimum, usually not over two to four days. For the same reason pinhole glasses are not required following this operation.

4. The fact that the diathermized area of sclera is completely buried makes reoperation much easier than in cases that have had exposed diathermy through full thickness of sclera. In these latter cases the previously treated sclera is found to be quite friable and the density of the adhesions of Tenon's capsule, conjunctiva, and extraocular muscles is much worse.

Preoperative Examination and Treatment

Our preoperative examination of the patient determines the type of surgical procedure that we intend to use. The history often indicates those cases in which there is probably traction on the retina from the vitreous. Most cases in which there is a history of previous unsuccessful retinal detachment surgery will show some evidence of traction from the vitreous that probably caused the initial failure or a re-detachment of the retina. Cases in which there is a history of previous cataract extraction, especially if there has been some vitreous loss, usually have vitreo-retinal adhesions. In addition, detachments that have been present over a period of several months and those in which the history reveals that trauma or uveitis played a definite part in the development of the detachment will probably require a scleral buckling procedure.

After taking the history the eyes are thoroughly examined by both direct and indirect ophthalmoscopy on the patient's first visit to the office. This initial examination is probably the most important study that is made preoperatively. Most of the holes can be found on the first examination. In fact, the retinal breaks are more easily detected at that time because of the greater difference in the color between the elevated retina and the choroid which shows through the break. This contrast is less evident after the retina has settled back into position.

Careful ophthalmoscopic examination also may reveal evidence of vitreous traction. Schepens, Brockhurst and Okamura [4] have listed signs of vitreous traction as follows:

The presence of fixed folds of the retina, star-shaped folds of the retina, multiple breaks and breaks that have rolled up edges.

Following exhaustive ophthalmoscopic examination we attempt to study the vitreous with the slit lamp. Slit lamp study of the deep vitreous, with the aid of the Hruby lens or a contact prism will frequently reveal the presence of vitreous strands pulling on the retina. In detachments in aphakic eyes the study of the anterior chamber with the slit lamp may reveal the presence of a definite anterior vitreous adhesion. In several cases we have been able to trace such an adhesion from the anterior segment all the way down to the retina where it was found attached to a raised operculum.

Cases in which there is a definite evidence of vitreous traction on the retina do not require preoperative bed rest unless there is a possibility that the detachment may soon involve the macular area.

In cases in which there is no evidence of vitreous pull on the retina, or, in which we have not found all or any of the retinal holes, we bandage both eyes firmly and institute bed rest. A complete flattening out of the retina with a return of confrontation visual field within forty-eight hours indicates that vitreous traction is probably not playing a major role in this particular detachment. In addition, on some occasions a flattening out of the retina has helped us detect peripheral holes that we could not find on the initial visit.

In order to do a scleral buckling operation without increasing the ocular tension to a dangerous level there must be sufficient subretinal fluid that can be drained away to give room for the buckle. For

this reason very flat or shallow detachments and cases in which there is a hole in the retina without detachment, cannot be treated by a scleral buckle with an encircling polyethylene tube. In such cases we will usually do a conventional retinopexy or the Schepens' trapdoor procedure.[3] In the trapdoor procedure a laminated flap of sclera is dissected over the area of the hole. After diathermizing the base of the resected area a short polyethylene tube, usually 1.0-1.5 cm. in length, is placed within the resected area. The scleral flap is closed down over this polyethylene tube in order to buckle in the sclera and choroid in the area of the hole to seal off the break at the time of the operation.

Also, we might use either retinopexy or the trapdoor procedure in the cases with a single small break in which the retina flattened out completely with forty-eight hours of bed rest with firm binocular bandage.

On occasion, we have found at the time of surgery that we are unable to remove a sufficient amount of subretinal fluid to satisfactorily perform scleral buckling with an encircling tube. We then have two alternatives: In some cases we can cut off the encircling portion of the tube and bury only the segment of the polyethylene tube that lies within the resected area. In other cases where burying a portion of the tube is not possible, we remove the tube entirely and convert the procedure into a simple laminated scleral resection.

In this paper we have discussed only the procedures with which we have had some limited experience. In our hands the scleral buckling procedures have definitely improved the percentage of success in the more unfavorable cases. This is especially true in retinal detachments in aphakic eyes, traumatic detachments, detachments that have been present for a long period of time, detachments following or associated with uveitis and those that have had previous unsuccessful retinal detachment surgery.

In cases with giant holes in the retina or large disinsertions and in cases of very high myopia our results have not been appreciably improved by the buckling procedures.

Despite the improvement in the results of the treatment of retinal detachments that has been due to the advancements in diagnostic evaluation and surgical technique, we are still a long way from the millenium as far as the handling of retinal detachments is concerned. There is no room for complacency in any present day method of surgical therapy. As yet we do not know enough about the etiology and the basic pathology of retinal detachments. Our knowledge of degenerative changes of the retina and the vitreous is still at a very primitive level.

We can never be satisfied with a form of treatment that depends upon surgically inducing one pathological process to counteract another pathological entity.

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Editorial

Free Choice of Physician And the Report of the Commission on Medical Care Plans

In recent years the matter of free choice of physician is constantly before the medical profession and the public. The all important patient-physician relationship is affected by it. When life was simple, the problem of free choice did not exist. The patient did the choosing. The free choice of physician is a fundamental principle, which the medical profession subscribes to, supports, and strives to attain. When the patient pays the physician, he is able to exercise free choice. The principle, however, has been restricted in its application in many situations. "Among such instances are the following: By action of law; by social and economic changes leading to new methods of financing the cost of medical care; by action of the profession in establishing systems of staff or appointments granting limited privileges; by rating of physicians for the performance of various types of medical care; by the certification of specialists;" and by hospitals limiting the number of physicians and defining their fields of service. Restrictions in the application of the principle of free choice may come from any of the "third parties" listed above.

Third parties are defined as mechanisms which for any reason enter into the relationship between the patient and his physician. Third parties assume a wide variety of form and activities. Those which provide payment of medical costs, including physicians' fees, concern us now. The medical profession exists to serve the physical and mental needs of all humanity, and has long had the objective of rendering good medical care at a cost that people can afford to pay.

In 1954, the Board of Trustees of the American Medical Association appointed a Commission to determine whether the

current prepayment medical care plans are effective in promoting the highest quality of health services, the welfare of the public and the medical profession, and the ethical standards of the medical profession. The Commission gave its attention to the working of medical care plans in four fields of activity. These were: medical society approved plans, including Blue Shield and private insurance programs, industry programs, student health services, and miscellaneous and unclassified plans. The latter are of great concern at the present time although they cover only an approximate five and a half million insured persons. The other types of plans cover about one hundred and twenty million persons.

Approximately one half of the report is devoted to consideration of the plans of the miscellaneous and unclassified type. They are important because it is principally here that the principle of free choice of physician is being challenged, and it is here that the threat of greatest danger to the patient-physician relationship exists. In these plans, the services range from diagnostic to comprehensive medical care and the relationship of the patient to the program ranges from choice of physician to no choice at all. For the majority, there is a choice of physician to some extent within the panel.

The report, the conclusions, and the recommendations are commendable, and give expression to careful and closely reasoned consideration by the members of the Commission. It was received by the House of Delegates in December 1958, who adopted this statement:

"We respectfully suggest to the constituent associations reviewing the report in the interim, that their attitude regarding the report will be clarified if they arrive at some decisions in regard to the following basic points:

"1. *Free choice of Physician* — Acknowledging the importance of free choice of physician, is this concept to be considered a fundamental principle, incontrovertible, unalterable, and essential to good medical care without qualification?

"2. *Closed Panel Systems*—What is or will be your attitude regarding physician participation in those systems of medical care which restrict free choice of physician?

"These suggestions acknowledge that the policy of the American Medical Association to encourage and support the highest quality of medical care for all patients remains unchanged. They question, however, whether attitudes toward the free choice of physician and the closed panel system may be undergoing evolutionary change."

Most of the report will find approval and support by the majority of American physicians. Disagreement will develop on the two points about which the House of Delegates asked the constituent associations to give an opinion, that is, the rigidity with which the principle of free choice of physician is to be applied, and the attitude towards those physicians who participate in closed panel systems, restricting the free choice of physician.

In regard to the first question, the answer should be "No." An explanation of this position is needed. The report provides a broad statement of facts by which it is clear that free choice stands, and should continue to stand, as an ethical principle. Restrictions on its application have developed. These exist in certain areas as a result of legal decisions, laws, economic situations, or professional action. Freedom of choice is therefore relative. While the highest aims of the profession can only be served by continuing to strive for its attainment, we, as physicians have to face the facts and should hold the tolerant attitude in the circumstances which restrict its application, provided there are proper standards of care. The principles of medical ethics and the opinions of the Judicial Council are the proper guides to the profession in the situations.

The answer to the second question about the attitude regarding physician participation in those systems of medical care which restrict free choice of physician comes from the same principles which

have been given above. Each case should be judged on its own merits. If the system of medical care restricting the free choice of physician contains safeguards and conditions which will respect the rights of physicians and patients, both to render and to receive medical care of the highest available quality, the physicians serving those plans should not be regarded as unethical.

The opinions of the Judicial Council have indicated that conflicts in such matters should be resolved locally.

The third party influences in the patient-physician relationship have been in existence over a hundred years. Those which restrict free choice have not obtained a dominant position. The arguments supporting the claims of those who advocate abolition of free choice and establishment of closed panels could, with the change of a few words, be applied to plans to choose for the individual all the important people that he deals with in his life, such as his minister, teachers, his attorney, and government officials. The same line of reasoning could be used to induce the individual to surrender many of his fundamental freedoms, such as where he will work or for whom he will work.

Comprehensive medical care and the relationship of the patient to the program ranges from choice of physician to no choice at all. For the majority there is a choice of physicians to some extent within the panel. Approximately one half of the report is devoted to consideration of the operation of plans of this type. The report, conclusions, and recommendations, represent a massive effort and give expression to the careful and closely reasoned considerations of the members of the Commission. Much that is in the report will find approval and support of the majority of American physicians. The point of controversy is the explicit attitude that organized medicine should take towards these miscellaneous and unclassified plans, in view of its own ethical principles, its previous belief and adherence to the principle of free choice of physician, and the constant interplay of contending forces attempting to change that position.

The report of the Commission was presented to the House of Delegates in December 1958, who deferred action until the June 1959 session of the House, in order that the plan could have thorough consideration by the constiuent state societies, and requested that the state societies make known to the House of Delegates of the A.M.A. their views on the report.

In conclusion it can be said that the free choice of physician is an important factor in the provision for good medical care and the principle should be applied as universally as practicable. In order that it should be maintained and fully implemented, the profession should discharge more vigorously its self imposed responsibilty for assuring the competency of physician services and their provision at a cost which people can afford. By such deeds, medicine will be practiced in a way that the public will continue to show its belief in the principle and its need for free choice.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.



ARTHUR D. LONG, M.D.
President
1958 - 1959

Dr. Arthur D. Long, our President for the past year, has had an extremely busy administration and many problems of momentous importance to our profession have come up for consideration and solution. These problems were dealt with, always keeping in mind what was best for the public and Organized Medicine. Dr. Long has always kept uppermost in his evaluation of matters presented for consideration the welfare of the Society and its members.

Our President has been very active in representing our Society and the profession at many parish, district and national organizations. He has been active at all times in creating good public relations, not only between the members of the medical profession, but also between the public and our profession.

As you know, 1958 was a legislative year and Dr. Long was always found opposing bad medical legislation and wholeheartedly supporting legislation which would protect both our members and the public.

Dr. Long was born in Oakland, Louisiana, in 1906, son of Dr. and Mrs. A. D. Long, Sr. When six years of age, the family moved to El Paso, Texas where his father built a sanatorium for the treatment of tuberculosis and was very active in this field up to the time of his recent death.

Dr. Long attended grammar and high schools in El Paso and later took two years of engineering at Texas Western University prior to starting his pre-medical course, which was taken in the Universities of Colorado and Texas, with additional work at St. Mary's in San Antonio. As an undergraduate student, Dr. Long won his letters in football and baseball.

In 1929 he was married to Miss Margaret Stewart of El Paso. After a honeymoon in Europe, Dr. and Mrs. Long came to New Orleans to complete their college careers and have resided in Louisiana ever since.

In entering Tulane, Dr. Long was following family tradition, since Tulane was his father's alma mater. He was also interested in studying under the eminent Dr. Wilbur C. Smith, who was the head of the gross anatomy department of the Tulane School of Medicine. He received his M. D. degree in 1935. After serving two years of internship at Charity Hospital, New Orleans, Dr. Long accepted a position on the staff of the East Louisiana State Hospital at Jackson, where he remained for the next three years. In

1940, Dr. Long entered private practice in Baton Rouge and is carrying on an active practice in this city where he and Mrs. Long have become permanent residents.

Dr. Long has served as Chief of the Visiting Staff at Our Lady of the Lake Hospital, and has held various offices in the parish and state medical societies, including many years on the Committee on Public Policy and Legislation of the State Society, which is his primary interest in the realm of Organized Medicine. He was Councilor of the State Society from the Sixth District in which capacity he was serving immediately prior to his election as President-elect. He was installed as President in May, 1958.

Dr. Long enjoys membership in the East Baton Rouge Parish Medical Society, the Sixth District Medical Society, the Louisiana State Medical Society, Southern Medical and American Medical Associations, and is quite active in civic organizations.

The members of the Louisiana State Medical Society are indebted to Dr. Long for the splendid manner in which he has acquitted himself and for his efficient administration as President during the past year. It is hoped that he will continue his interest in Organized Medicine and will give us the benefit of his wise counsel in the future.

PUTTING A PUBLICATION "TO BED"

Ever stop to consider how much work is involved in getting out a magazine?
This may give you an idea.

Regardless of its size, every magazine consists of a bunch of separate articles or stories, each theoretically based on what is commonly known as an idea.

It is popularly supposed that such ideas leap nimbly from the mind of the editor. Occasionally they do. More often, however, the idea is the brainchild of some struggling writer who, faced with a deadline and a blank piece of paper, must create something out of nothing in no time flat.

In addition to this simple requirement, the writer is expected to dig, delve, probe, and come up with a batch of interesting facts. Even if they are dull as dishwater, he is supposed to make them *sound* interesting. If he succeeds, he is sometimes given a byline.

Once the writer has painfully whittled his idea into finished form, it is subjected to another long and arduous process known as putting the publication "to bed."

This process is carried out by a group of unsung heroes generally described as artists, photographers, engravers, typesetters, proofreaders, make-up men, printers, and bindery workers. These gentlemen are usually anonymous but their jobs have the advantage of being conducted during normal working hours. This allows them to have dinner with their families, a privilege not always shared by the writer.

The second step in transforming the idea into finished form falls on the artist or layout man, who arranges the text to fit the space and decides upon the illustrations to be used and where they shall be placed. Frequently, this genius also supervises the photographer. When drawings are used instead of photographs, the artist also has the pleasure of drawing them.

The artwork and photos then go to an engraver.

The engraver's craft is an old and honorable one but too technical to explain here. Suffice it to say that making an engraving takes anywhere from several hours to several days, depending upon the engraver's disposition and the amount of work in his shop. His disposition frequently proves the determining factor.

While the engraver is performing his miracles, the type is set by a typographer. Some is set by machine and some by hand. Proofs are then pulled and corrected by scholarly printing company employees known as proofreaders. In addition to having an eagle eye, they must also know how to spell every word in the dictionary.

Next, the type and engravings are locked up in a big metal form by a make-up man, who must see that everything fits together as shown on the layout. Sometimes this can't be done, cold metal being an obstinate thing, and the writer and layout man are called on to cut out some of the words or alter the layout so the masterpiece will fit the space. This is one reason why writers have ulcers and some layout men are prone to strong drink.

At this stage the locked-up form is ready to go to press. This is known as "putting the publication to bed." Once it has gone to bed, all concerned breathe a sigh of relief. All, that is, except the pressmen and the people in the bindery, who are supposed to see that the printing presses produce exactly the right colors and that the pages are folded and stitched in the order intended.

Of all the people involved in these procedures, probably those deserving the most sympathy are the writer, the typographer, and the proofreader. They *have* to read the stuff! Fortunately for the rest—they *don't*. A blessing shared, it might

be added, by the gentle reader, who can pass up the whole caboodle with complete unconcern for all the time and effort it took to put the publication "to bed."—*Tennessee Progress*

INSURANCE BENEFIT PAYMENTS

Benefit payments by insurance companies to the people of Louisiana who are covered by health insurance policies reached a new high during 1958, the Health Insurance Institute reported today.

In the period from January 1 through December 31, 1958, said the Institute, an estimated $31.9 million was paid out to help cover the cost of hospital and doctor bills, and to replace income lost through sickness or disability. This represents a 7.4% gain over the 1957 figure of $29.7 million, and is based upon reports from insurance companies doing business in the state.

The rise in benefit payments in Louisiana was reflected in the figures for the nation as a whole, the Institute noted. Persons protected against the expenses of hospital and medical care and treatment received a total of more than $2.6 billion in benefits from their insurance company policies in 1958, up 8.3% over the previous year's high of $2.4 billion.

By the end of the year, an estimated 70 million persons were covered by health cost policies bought from insurance companies, more than all other types of voluntary health plans combined.

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

BATON ROUGE PEDIATRIC SOCIETY

The Baton Rouge Pediatric Society announces its June 16 quarterly meeting which will consist of a program by Dr. Alan Moncrieff, Chief of Staff, The Hospital for Sick Children, Great Armond Street, London, England. The subject will be BIOCHEMISTRY AND MENTAL DEFECTS.

For further information, contact Francis M. Harris, Jr., M. D., Secretary-Treasurer, Baton Rouge Pediatric Society, 1401 North Foster Dr., Baton Rouge, Louisiana.

NEW SIX-OUNCE HEART MONITOR DESCRIBED

A tiny device that can be set on a surgical patient's arm and gives off a "beep" if his heart is functioning normally was described today.

Cardiac monitors are used to warn surgeons and anesthesiologists when the heart ceases to function properly. If the heart stops, it frequently can be started again through the use of heart massage and electric shock, but these must be done instantaneously.

The new monitor, weighing only six ounces, records the heart's electrical activity, the "most accurate index" of its function, according to Dr. William F. Veling, Detroit.

Writing in the Oct. 11, 1958 Journal of the American Medical Association, he said the miniature monitor has many advantages over the standard larger machines.

A self-contained unit powered by batteries, it needs no long complicated electrical wiring and its audible "beep" overcomes the disadvantage of the older machines which need constant visual attention. "It enlists the attention of the entire operating room team but frees their eyes and hands for other duties," he said.

Another possible use for the device is that of monitoring the hearts of critically ill patients, especially those with heart disease, he said. Because it is small, relatively inexpensive, and

easily stored, a hospital could keep a number on hand for use in patients' rooms.

In conclusion, Dr. Veling said, "Small, reliable, rugged and easy to operate and maintain, a miniature cardiac monitor with its reassuring 'beep' could become as commonplace as the stethoscope in the operating room."

SALT LAKE DOCTOR DEVELOPS NEW BANDAGE SCISSORS

Cutting away a tight bandage has become painless with the development of a new bandage scissors.

Developed by Dr. Preston J. Burnham, a Salt Lake City surgeon, the new scissors slip easily and painlessly beneath tight bandages.

They lack the large acorn-shaped protuberance found on the lower blade of standard bandage scissors. Dr. Burnham said in the Oct. 11, 1958 Journal of the American Medical Association.

The lower blade comes to a smooth, rounded point only slightly longer than the upper blade. This allows cutting with the full length of both blades.

The acorn-tipped scissors had to be pushed far under the bandage before cutting could be done, since the acorn tip was blunt. Pushing the scissors between a snugly wrapped bandage and broken bone reminded one, Dr. Burnham said, "of an ancient method of torture in which wedges were pounded beneath wrist gyves to crush the wrists."

The new scissors' short cutting action goes through the toughest dressings without binding, and the point on the lower blade does not catch in the skin or the dressing, he said.

(The scissors are manufactured by J. Sklar Manufacturing Co., 38-04 Woodside Ave., Long Island City, N. Y.)

OCCLUDED NECK ARTERIES CAUSE MANY STROKES

A large percentage of strokes are caused by obstructions in the arteries of the neck, three Texas physicians said today.

The obstructions, frequently resulting from hardening of the arteries, reduce the flow of blood to the brain, producing the symptoms of stroke—weakness, loss of speech and the ability to understand, visual disturbances, and mental dullness.

Other possible causes of stroke are blood clots, capillary hemorrhage, or blood vessel spasm in the brain.

Careful diagnosis of the cause of the stroke must be made in order to decide the proper treatment. Occlusions in the neck arteries are readily diagnosed through the use of x-ray.

Since the obstructions lie in the neck, they can be treated by "direct surgical attack," according to Drs. E. Stanley Crawford, Michael E. De Bakey, and William S. Fields, Baylor University College of Medicine and the Methodist Hospital, Houston.

Writing in the October 4, 1958 Journal of the American Medical Association, they said the surgery may take the form of actual removal of the obstructed part of the artery or the creation of a grafted by-pass around the occlusion.

They have surgically treated 43 patients who had occluded internal carotid, innominate, subclavian or left common carotid arteries. These arteries all lead through the neck to the head.

Since surgery, signs suggestive of impending stroke have cleared in all patients, and episodes of recurrent strokes which had occurred in 14 patients before operation have not recurred in any patient, the doctors said.

WOMAN'S AUXILIARY

TO THE LOUISIANA STATE MEDICAL SOCIETY

ORLEANS PARISH

New Orleans, the city that care forgot, lured several hundred doctors' wives, who with their husbands came here from all over the country for the Twenty-second Annual Meeting of the New Orleans Graduate Medical Assembly which took place March 2, 3, 4, and 5.

The Woman's Auxiliary to the Orleans Parish Medical Society were hostesses to the visitors for two gala affairs. On Tuesday afternoon, March 3, there was a tour of several homes and patios in the historic Vieux Carre preceded by a tea party in the residence of the Colonial Dames in the Pontalba building. Mrs. Charles Lafayette Brown was general chairman of entertainment and was assisted in receiving the guests by Mmes. Albert W. Habeeb, Joseph W. Reddoch, Morrell W. Miller, Joseph O. Weilbaecher, Jr., and George M. Haik.

Tea time the following day found the doctors' wives gathered in the setting of a French drawing room in old New Orleans at the Orleans Club viewing a style show, "Modern Miracle of Fashions".

Receiving were Mmes. Albert W. Habeeb, Charles Lafayette Brown, Joseph O. Weilbaech-

er, Jr., Daniel W. Beacham, Arthur D. Long of Baton Rouge and Edward M. Harrell of Lafayette.

Alternating in presiding at the gold and crystal tea and coffee services were Mmes. Thomas B. Sellers, Andrew V. Friedrichs, Edwin Hugh Lawson, Frederick Fenno, Donovan C. Browne, Eugene Countiss, V. Medd Henington, Willoughby E. Kittredge, M. E. St. Martin, Mannie D. Paine, Jr., and Boni DeLaureal.

Assisting in the dining room were Mmes. Walter F. Becker, Robert C. Kelleher, William R. Arrowsmith, Leon Bultman, Julius T. Davis, Jr., Nathan Gisclair, George LeBeau, William S. Neal, James L. LeNoir and Daniel W. Hayes.

Mrs. Branch J. Aymond,
Chairman Publicity.

BOOK REVIEWS

Gifford's Textbook of Ophthalmology, 6th Edition by Francis H. Adler, Philadelphia, Pa. W. B. Saunders Co. 1957, 499 p. Price $8.00

This popular textbook has been revised to eliminate portions of the previous editions which proved of little value for the medical student and general practitioner. Scattered sections on injuries have been collected into one chapter giving easy, ready reference on the disposition of ocular injuries. Medical thinking on diseases and treatment has been brought up to date.

This book, as always, can be recommended highly.

JEROME L. BYERS, M. D.

Essentials of Fluid Balance, by D. A. K. Black, M. D., Springfield, Illinois, Charles C Thomas, 1957. Pp. 127, Price $3.75.

This elegant and brief monograph clearly expresses the current position of our knowledge in this important field. It is no surprise to encounter a brilliant treatment of fluid and electrolyte balance from the hand of Dr. Black because he has made outstanding original contributions to this subject. The work is organized about the physiological disturbances and clinical syndromes produced by excess and depletion of water, sodium and potassium. The prinicples upon which effective treatment of these disorders depends are emphasized and concretely illustrated. A fine background for the study of current developments in fluid and electrolyte balance is furnished. An excellent selective bibliography is provided which will be a useful guide to the large literature that exists. Frequent references to this list are made in the body of the monograph and the reader is always informed of the author's opinion concerning the value of the work which he cites. It is doubtful that any other small volume in this field can compare with Dr. Black's monograph. It is highly recommended to all students of medicine and all members of the medical profession.

MORTON M. ZISKIND, M. D.

The Road to Inner Freedom; by Baruch Spinoza, N. Y., N. Y., Philosophical Library, 1957. Pp. 215, Price $3.00.

Some may question the presence of this volume in a medical library. While it is applicable to a psychiatrist's library, it is only in the broader sense that it should be considered for nonpsychiatric physicians. The book is edited by Dr. D. D. Runes, who has done a masterful job simplifying the ethical philosophy of the great postrenaissance philosopher, Baruch Spinoza.

This volume helps explain the seeming paradox of a man who was for many years considered a "wicked" atheist and who by the termination of the 18th century had become a symbol of spiritual sanctity and intellectual integrity. It further emphasizes that his was truly one of the great minds of all time. Spinoza argues that the violent ambivalance of man's turbulent emotions can only be handled by the awareness and giving in to a Supreme Being. The life and work of this ailing philosopher was dedicated to the search for a way to human happiness and social dignity; Spinoza had experienced both the savagery of religious strife and the upsets of emotional insecurity. This volume presents his thesis in a relatively concise, clear manner.

GENE L. USDIN, M.D.

PUBLICATIONS RECEIVED

MD Publications, Inc., N. Y.: A History of Ophthalmology, by George E. Arrington, Jr., M. D.; A History of Neurology, by Walther Riese, M. D.

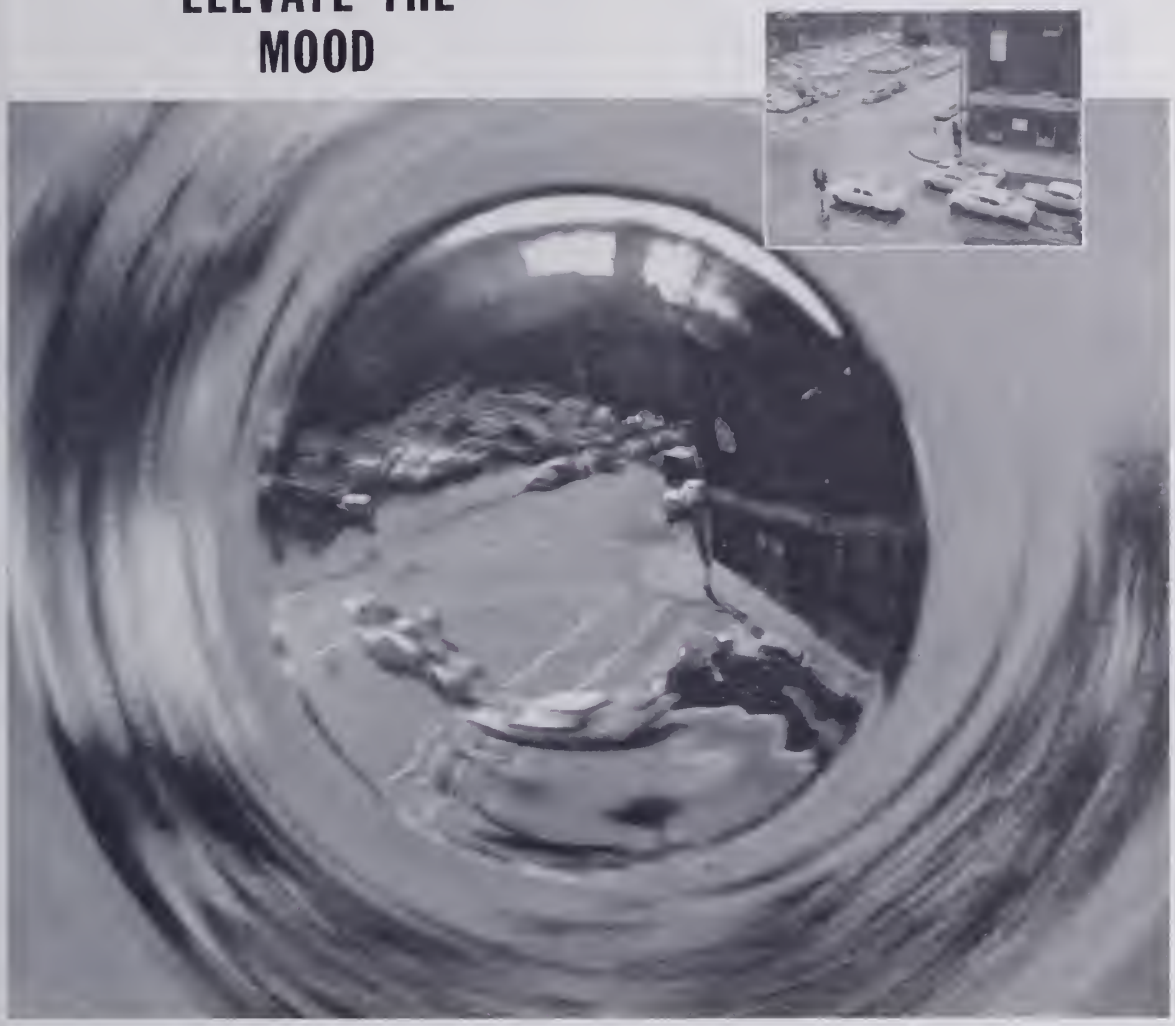
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CONTROL VERTIGO, DIZZINESS... AND ELEVATE THE MOOD



with **Dramamine-*D*®**

brand of dimenhydrinate with dextro-amphetamine sulfate

"Disturbances of balance resulting from vestibular disorders have long been known to lead to severe anxiety."*

Vertigo—whether of organic or functional origin—tends to leave depression in its wake. Dramamine-*D* is a therapeutic combination designed for treatment of the entire vertigo-reaction syndrome. Each tablet contains dimenhydrinate (50 mg.) to control dizziness, and dextro-amphetamine sulfate (5 mg.) to elevate the mood.

*Pratt, R. T. C., and McKenzie, W.: Anxiety States Following Vestibular Disorders, Lancet 2:347 (Aug. 16) 1958.

Dramamine® available as tablets, ampuls, liquid, suppositories

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EXIT

worms

ABMINTHIC*

dithiazanine iodide

Specifically effective against pinworms and four other common parasites . . .

Extremely well tolerated in recommended dosages.

Dosage: 200 mg. t.i.d. (children 10 mg./lb., not to exceed 600 mg. per day), for 5 days in pinworm, giant roundworm and whipworm, and 10-14 days in threadworm. If response to first course is incomplete, a second course of treatment usually controls infection.
In hookworm—200 mg. t.i.d. and 2 Gm. tetrachloroethylene (proportionately less of both in children), for 3 days; repeat course 10 days later.
Supply: Abminthic Tablets (200 mg.), bottles of 100.

References: 1. Miller, J.H., et al.: Am. J. Dig. Dis. 3:229-231, 1958. 2. Swartzwelder, J. C., et al.: A.M.A. Arch. Int. Med. 101:658-61, 1958. 3. Frye, W. W., et al.: Am. J. Trop. Med. Hyg. 6:890-893, 1957. 4. Swartzwelder, J. C., et al.: J.A.M.A. 165:2063-67, 1957.

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HYDRODIURIL*

HYDROCHLOROTHIAZIDE

a new measure of activity



in edema

whenever there is need for diuresis

in hypertension

effective by itself in some patients—always as background medication in any antihypertensive regimen.

summary of clinical information—HYDRODIURIL (HYDROCHLOROTHIAZIDE)

IN EDEMA:

- greater oral effectiveness than with any other class of diuretic agent
- diuretic effectiveness maintained even on prolonged daily administration
- 25 mg. HYDRODIURIL orally is equivalent to 1.6 cc. meralluride I.M.
- has been reported to be effective even in patients who did not respond satisfactorily to other diuretics
- low toxicity—extremely well tolerated
- often achieves the benefits of a low salt diet without the unpleasant restrictions





HYDRODIURIL (HYDROCHLOROTHIAZIDE)

- highly-active derivative of chlorothiazide
- similar qualitatively to chlorothiazide but 10 to 12 times more potent
- loss of potassium is clinically insignificant in the great majority of patients on normal diets

HYDRODIURIL*

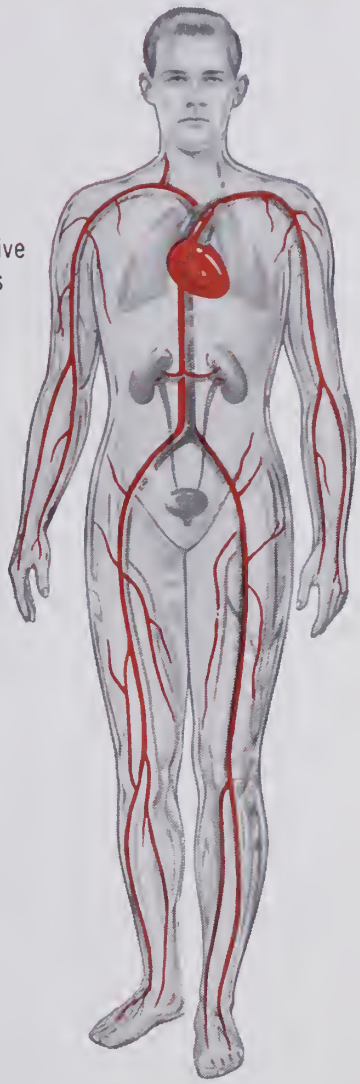
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NEW RELEASE

IN HYPERTENSION:

- provides background therapy in any antihypertensive regimen (by itself, HYDRODIURIL adequately controls hypertension in some patients)
- has been reported by some investigators to have a greater antihypertensive effect in some patients than does chlorothiazide at equivalent dose levels
- does not lower blood pressure in normotensives
- markedly potentiates other antihypertensive agents
- reduces dosage requirements for other agents, often with concomitant reduction in their distressing side effects
- smooths out blood pressure fluctuations





HYDRODIURIL*

HYDROCHLOROTHIAZIDE

NEW RELEASE





IS INDICATED IN:

1 Hypertension

2 Congestive heart failure of all degrees of severity

3 Premenstrual tension (edema)

4 Edema of pregnancy

5 Renal edema—nephrosis; nephritis

6 Cirrhosis with ascites

7 Drug-induced edema

8 as adjunctive therapy in the management of obesity complicated by edema

RECOMMENDED DOSAGE RANGE

In **EDEMA:** one to two 50 mg. tablets HYDRODIURIL once or twice a day

In **HYPERTENSION:** one or two 25 mg. tablets or one 50 mg. tablet HYDRODIURIL once or twice a day. (When HYDRODIURIL is used with a ganglion blocking agent, it is mandatory to reduce the dose of the latter by at least 50 per cent, immediately upon adding HYDRODIURIL to the regimen.)

SUPPLIED as 25 mg. and 50 mg. scored tablets, in bottles of 100 and 1000.

PRECAUTIONS:

It is important that dosage be adjusted as frequently as the needs of the individual patient demand.

HYDRODIURIL has shown no adverse effects on renal function and is essentially not nephrotoxic; for this reason it may be used with excellent results even in patients for whom organomercurials are contraindicated because of renal damage. The excretion of potassium is much lower than that of sodium and chloride and, as is the case with DIURIL®, the loss of potassium is clinically insignificant in the great majority of patients on normal diets. If indicated, this potassium loss may be easily replaced by including potassium-rich foods in the diet (orange juice, bananas, etc.).

Additional information on HYDRODIURIL is available on request.

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waterloo for an ulcer...

Napoleon exhibited ulcer symptoms through most of his adult life, yet he scorned medication for his everlasting "spasms of nervous origin." He ignored his infirmities with violent naïveté despite an intense interest in medical science. Thus, the classic hand-in-coat pose may have been the result of his paroxysms of gastric pain that sliced "like the stab of a penknife."

When your patient is besieged with an ulcer, Robins provides you with an armamentarium sufficient to repel it.

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Encirclement – If you prefer to approach the ulcer Systemically, prescribe DONNATAL ® the anticholinergic-antispasmodic-sedative with the time-tested *natural* belladonna alkaloids and phenobarbital, a veteran campaigner without peer. FORMULA: hyoscyamine sulfate, 0.1037 mg.; atropine sulfate, 0.0194 mg.; hyoscine hydrobromide, 0.0065 mg.; and phenobarbital (¼ gr.), 16.2 mg.

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SPONTIN IN SERIOUS

A Special Report from Abbott
to the Medical Profession
on a Year's Clinical Experience
with SPONTIN®
(Ristocetin, Abbott)

In a Spanish province, a patient lay dying of endocarditis. A short wave radio appeal for SPONTIN was intercepted by a Baltimore physician. The antibiotic was immediately flown to this faraway land, and 10 days later—the patient had recovered.

In Chicago, a moribund patient had been administered 18 combinations of 10 different antibiotics without success. Involved was a hospital-acquired staphylococcal pneumonia – plus complications. SPONTIN was substituted and the patient lived.

A five-week-old infant was critically ill with staphylococcal enteritis. Treatment failures included erythromycin and chloramphenicol. Three days of SPONTIN saved this life. The list is long and impressive and it grows daily.

Recently, a study[1] was made of serious and resistant staphylococcal infections reported to Abbott Laboratories. Many of these cases had serious complicating diseases—many were moribund, or almost so, at the time SPONTIN was started. Yet, out of the 160 staphylococcal cases studied, 93 were reported cured and 38 improved after the administration of SPONTIN.

Out of the total of 251 patients with severe infections caused by gram-positive or mixed organisms, 149 were reported cured and 53 others improved. And the record for pediatric practice was every bit as good.

Additionally, SPONTIN continues to exhibit exceptional bactericidal activity against coccal infections[2]. And, according to another study, SPONTIN provides successful short-term therapy in endocarditis[3].

Only last October, at the Antibiotics Symposium in Washington, D. C., a panel of six leading antibiotic experts placed SPONTIN at the top of all other commercially-available antibiotics for treating serious staphylococcal infections. Also, six papers—all dealing with the effectiveness of ristocetin (SPONTIN®) in treating staphylococcal infections—were presented at the Symposium.

One of the most encouraging aspects of the year's literature on SPONTIN is the increasing testimony to its safety. As the months have passed and cases have accumulated by the hundreds, it has become apparent that careful attention to dosage recommendations has practically eliminated toxicity and side effects as serious obstacles to therapy. Also, recent improvements have been made in the manufacture of SPONTIN; the drug is now made from pure crystals.

A recent report[4] in the Journal of the American Medical Association concluded, "It is our opinion that, if proper precautions are observed, ristocetin is a [well tolerated] and potent agent to employ in the treatment of staphylococcal infections." And in another study, after successfully treating 28 patients with a variety of staphylococcal infections, the authors reported[5], "No serious complications were noted."

Few more dramatic records have been written in such a short space of time. SPONTIN has proved itself to be a good answer, perhaps the best answer at present, to the resistant staphylococcal problem – and of real value in other serious coccal infections. It may well be your answer when you're confronted with a serious infection.

Abbott

901066

STAPHYLOCOCCAL INFECTIONS

Excerpts from Reports Read at the Antibiotics Symposium

Spontin In Treating Severe Respiratory Infections —"In 13 of 20 patients the results were excellent, with clinical response being evident within one to four days after institution of therapy. In three additional patients, there was some degree of improvement in pneumonic processes superimposed on tuberculosis in two cases and on pulmonary neoplasm in one. In all other cases, serious antecedent pathology undoubtedly influenced the negative or equivocal response to ristocetin therapy.[6]"

Spontin In Treating Staphylococcal Infections—After successfully treating 28 patients, the authors wrote, "Ristocetin or Spontin has proved to be bactericidal and bacteriostatic, particularly for the *Staphylococcus aureus,* which is often resistant to many other antibiotics.[5]"

Spontin In Treating Seven Difficult Cases — "Ristocetin has produced excellent results in eradicating, mitigating or preventing infection in seven selected difficult cases. Six of the seven cases involved *Staphylococcus aureus* which did not respond to chemotherapy with other antibiotics.[7]"

Spontin Blood Levels In Children — "Ristocetin was administered as a single intravenous injection of 12.5 milligrams per kilogram. This resulted in serum levels ranging from 1.3 to 10.6 mcg. after two hours with a gradual fall to a level of 0.7 mcg. per cubic centimeter or less after 12 hours.[8]"

Spontin In Treating Staphylococcal Pneumonia —"Ristocetin was used in the treatment of 24 patients with staphylococcal pneumonia, 17 of whom had failed to respond to previously administered antibiotics. Complete clearing of pneumonitis was obtained in 16 patients and significant improvement occurred in two others. Two patients died of pneumonia; four others succumbed to other lethal diseases.[9]"

Spontin In Treating Children and Adults — "Ristocetin completely controlled severe staphylococcal infections in 11 adults and six children who received adequate therapy.[10]"

1. Totals represent published reports and personal communications to Abbott Laboratories.
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Xylocaine HCl solution, the versatile anesthetic for general office surgery, relieves pain promptly and effectively with adequate duration of anesthesia. It is safe and predictable. Local tissue reactions and systemic side effects are rare. Supplied in 20 cc. and 50 cc. vials; 0.5%, 1% and 2% without epinephrine and with epinephrine 1:100,000; also in 2 cc. ampules; 2% without epinephrine and with epinephrine 1:100,000.

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to prevent the sequelae
of u.r.i. ... and relieve the
symptom complex

ACHROCIDIN®

Tetracycline-Antihistamine-Analgesic Compound Lederle

Pneumonitis, otitis, tonsillitis, adenitis, sinusitis or bronchitis develops as a serious bacterial complication in about one in eight cases of acute upper respiratory infection.[1] To protect and relieve the "cold" patient...ACHROCIDIN.

Usual dosage: 2 tablets or teaspoonfuls q.i.d. (equiv. 1 Gm. tetracycline). Each TABLET contains: ACHROMYCIN® Tetracycline (125 mg.); phenacetin (120 mg.); caffeine (30 mg.); salicylamide (150 mg.); chlorothen citrate (25 mg.). Also as SYRUP (lemon-lime flavored), caffeine-free.

1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933

Lederle LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

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How Lorillard research produced a cigarette with less tars and nicotine than any other leading filter brand



A major research foundation, under Lorillard sponsorship, determined that the average puff of cigarette smoke contained over 12 billion semi-solid particles. Further research revealed that inhaled smoke from ordinary cigarettes has a predominant proportion of particles, from 0.1 to 1 micron in diameter, average 0.6 micron.

Ordinary filter fibers are so large that they create spaces through which the small semi-solid smoke particle can easily pass. However, in the superior Kent filter, the fibers are mechanically manipulated in such a manner as to create extremely tortuous passageways for the smoke. This is the "MICRONITE" Filter.

The Kent filter is composed of pure cellulose acetate, which is common to the filters used in all leading brands. However, the physical construction of the Kent filter is the exclusive development of Lorillard research, and is different from and superior to all the rest.

Thus, Lorillard research created a filter of ideal purity, with extraordinary ability to eliminate smoke particles... and at the same time, a cigarette of such fine taste that during the past twelve months more smokers changed to Kent than to any other cigarette in America.

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IN URTICARIA AND PRURITUS

VISTARIL*

HYDROXYZINE PAMOATE



A PSYCHOTHERAPEUTIC ANTIHISTAMINE

(as designated by A.M.A. Council on Drugs, 1958)

SPECIFIC ANTIHISTAMINIC ACTION in the treatment of a variety of skin disorders commonly seen in your practice.

"While some of the tranquilizers are only partially effective as far as antiallergic activities are concerned . . . [hydroxyzine] has been found, by comparison, to be the most potent thus far . . ."[1]

"The most striking results were seen in those patients with chronic urticaria of undetermined etiology."[2]

PLUS

PSYCHOTHERAPEUTIC POTENCY for the relief of anxiety and tension.

The psychotherapeutic effectiveness of hydroxyzine (VISTARIL) was confirmed in a series of 479 patients suffering from a wide variety of dermatoses, including atopic dermatitis, neurodermatitis, psoriasis, lichen planus, nummular eczema, dyshidrosis, pruritus ani and vulvae, and rosacea. "Adverse reactions were minimal."[3]

RECOMMENDED ORAL DOSAGE: *50 mg. q.i.d. initially; adjust according to individual response.*

VISTARIL Capsules: *25 mg., 50 mg., 100 mg.*

VISTARIL Parenteral Solution: *10 cc. vials and 2 cc. Steraject® Cartridges. Each cc. contains 25 mg. hydroxyzine (as the HCl).*

REFERENCES:

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Analgesics offer temporary relief of musculoskeletal pain, but they merely *mask* pain rather than getting at its *cause*. New Medaprin, in addition to bringing about prompt subjective improvement, promotes the *restoration of normal function* by suppressing the inflammation that *causes* the pain.

Medaprin, Upjohn's new analgesic-steroid combination, contains aspirin plus Medrol.** the corticosteroid with *the best therapeutic ratio in the steroid field.*† Instead of suffering recurrent discomfort because of the "wearing off" of analgesics, the patient on Medaprin experiences a smooth, *extended* relief and more normal mobility.

Indications: Medaprin is indicated in mild-to-moderate rheumatic and musculoskeletal conditions, including rheumatoid arthritis, deltoid bursitis, low back pain, neuralgia, synovitis, fibromyositis, osteoarthritis, low back sprain, traumatic wrist, sciatica, and "tennis elbow."

Dosage: The recommended dosage is 1 tablet q.i.d. The usual cautions and contraindications of corticotherapy should be observed.

Supplied: In bottles of 100 and 500.

Formula: Each Medaprin tablet contains

- 300 mg. acetylsalicylic acid, for prompt relief of pain
- 1 mg. Medrol, to suppress the causative inflammation
- 200 mg. calcium carbonate, as buffer

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†RATIO OF DESIRED EFFECTS TO UNDESIRED EFFECTS

The Upjohn Company, Kalamazoo, Michigan

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relieve the tension



—and control its G.I. sequelae



Patient A.S., age 53.
Intermittent crises of severe pain over 2 year period; hospital management with Sippy regimen provided relief of symptoms; however, symptoms recurred after each sojourn.



PATHIBAMATE *(Tabs. j t.i.d. and H.S.)*; prompt relief of symptoms. Radiograph (21 days later) confirms healing of minute lesser curvature gastric ulcer crater.

predictable results in the control of tension and G.I. trauma

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Meprobamate with PATHILON® Tridihexethyl Chloride* LEDERLE

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PATHIBAMATE combines Meprobamate (400 mg.) — the noted tranquilizer-muscle relaxant widely accepted for safe management of tension and anxiety states — and PATHILON (25 mg.) — an extremely well-tolerated anticholinergic, long noted for prompt symptomatic relief based on peripheral atropine-like action with few side effects.

Indications:
Duodenal ulcer, gastric ulcer, intestinal colic, spastic and irritable colon, ileitis, esophageal spasm, anxiety neurosis with gastrointestinal symptoms, gastric hypermotility.

Supplied:
Bottles of 100 and 1,000. Each tablet (yellow, ½-scored) contains Meprobamate, 400 mg.; PATHILON Tridihexethyl Chloride, 25 mg.

Administration and Dosage:
1 tablet three times a day at mealtimes and 2 tablets at bedtime. Adjust dosage to patient response. Contraindicated in glaucoma, pyloric obstruction, and obstruction of the urinary bladder neck.

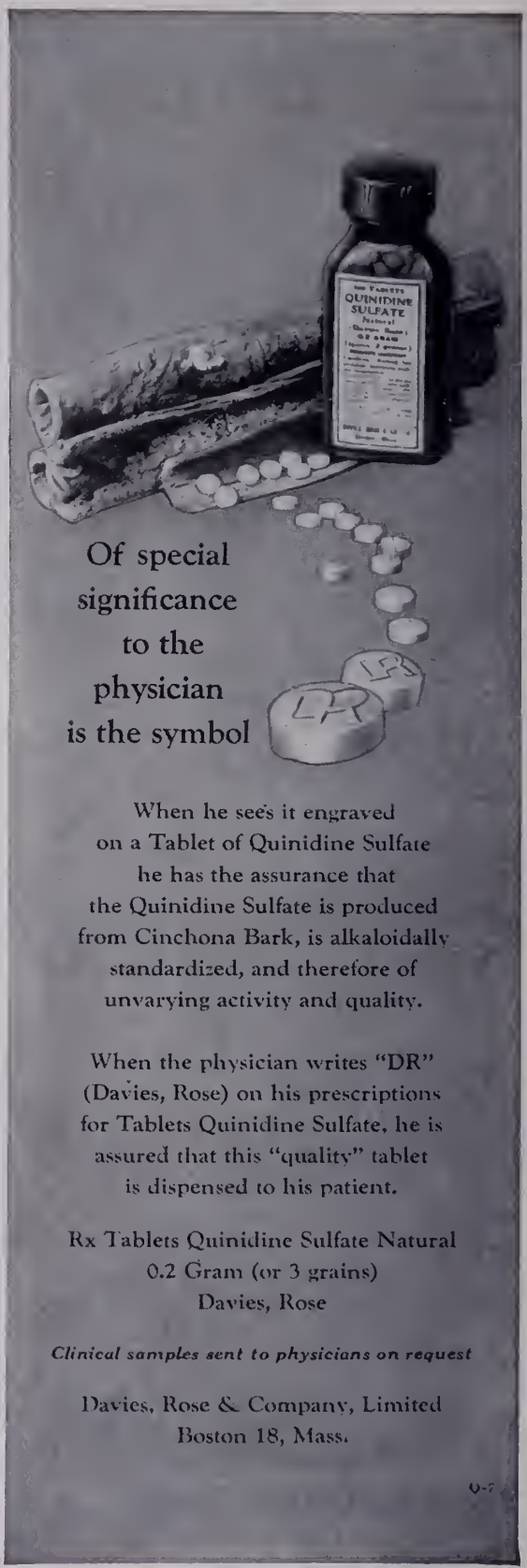
Also Available: PATHILON in four forms — *Tablets* of 25 mg., plain (pink) or with *phenobarbital*, 15 mg. (blue);
Parenteral — 10 mg./cc. — 1 cc. ampuls;
Pediatric Drops — 5 mg./cc. — dropper vials of 15 cc.

*PATHILON is now offered as tridihexethyl chloride instead of the iodide, an advantage permitting wider use, since the latter could interfere with the results of certain thyroid function tests.

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Nicotinic acid (50 mg.)—the drug of choice for prompt vasodilation.[2,3]

Advantage of "dual therapy" confirmed:

Menger found ANTIVERT "improved or controlled symptoms in virtually 90% of vertiginous patients."[2]

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Dosage: one tablet before each meal.

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References: 1. Charles, C. M.: Geriatrics 2:110 (March) 1956. 2. Menger, H. C.: Clin. Med. *4*:313 (March) 1957. 3. Shuster, B. H.: M. Clin. North America *40*:1787 (Nov.) 1956.

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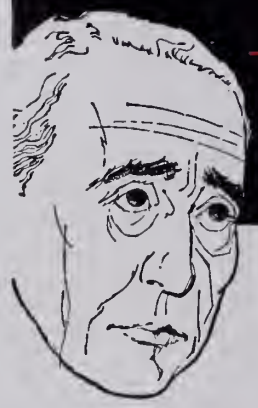
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Anti Depressant



Do Not confuse it with tranquilizers

'Deaner' must not be confused with tranquilizing or sedative drugs which may aggravate depression. On the contrary, 'Deaner' is often used to counteract drug-induced depression.

'Deaner' is valuable as an emotional normalizer in many situations other than depression, such as behavior problems with agitation. Nor should 'Deaner' be considered an ordinary stimulant. Its gentle action differs from that of other stimulants in that it leads to increased useful energy and alertness without the undesirable side effects of the amphetamine-like drugs.

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Deaner a totally new molecule, offers a new type of alleviation in depression, fatigue states and many other emotional disturbances. Its physiologic effectiveness as a safe central nervous system stimulant is attributed to its activity as a probable precursor to acetylcholine.

Deaner leads to better ability to concentrate, increased daytime energy, sounder sleep (with less sleep needed), and a more affable mood.

Deaner acts gently, gradually, and its effects are prolonged... without causing hyperirritability... without loss of appetite... without elevating blood pressure or heart rate... without sudden letdown on discontinuance.

Deaner is valuable in the treatment of children, especially those whose performance is impaired by behavior problems, whose attention span is too short, and who are emotionally unstable, unpredictable, and unadaptable.

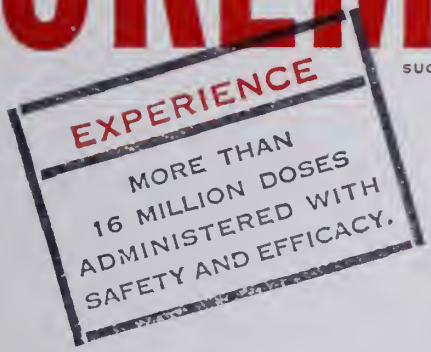
Dosage: Initially, 1 tablet (25 mg.) in the morning. Maintenance dose, 1 to 3 tablets; for children, ½ to 3 tablets. Three to four weeks of therapy may be required for maximum benefit.

Riker Northridge, California

in all diarrheas

CREMOMYCIN®

SUCCINYLSULFATHIAZOLE—NEOMYCIN SUSPENSION WITH PECTIN & KAOLIN

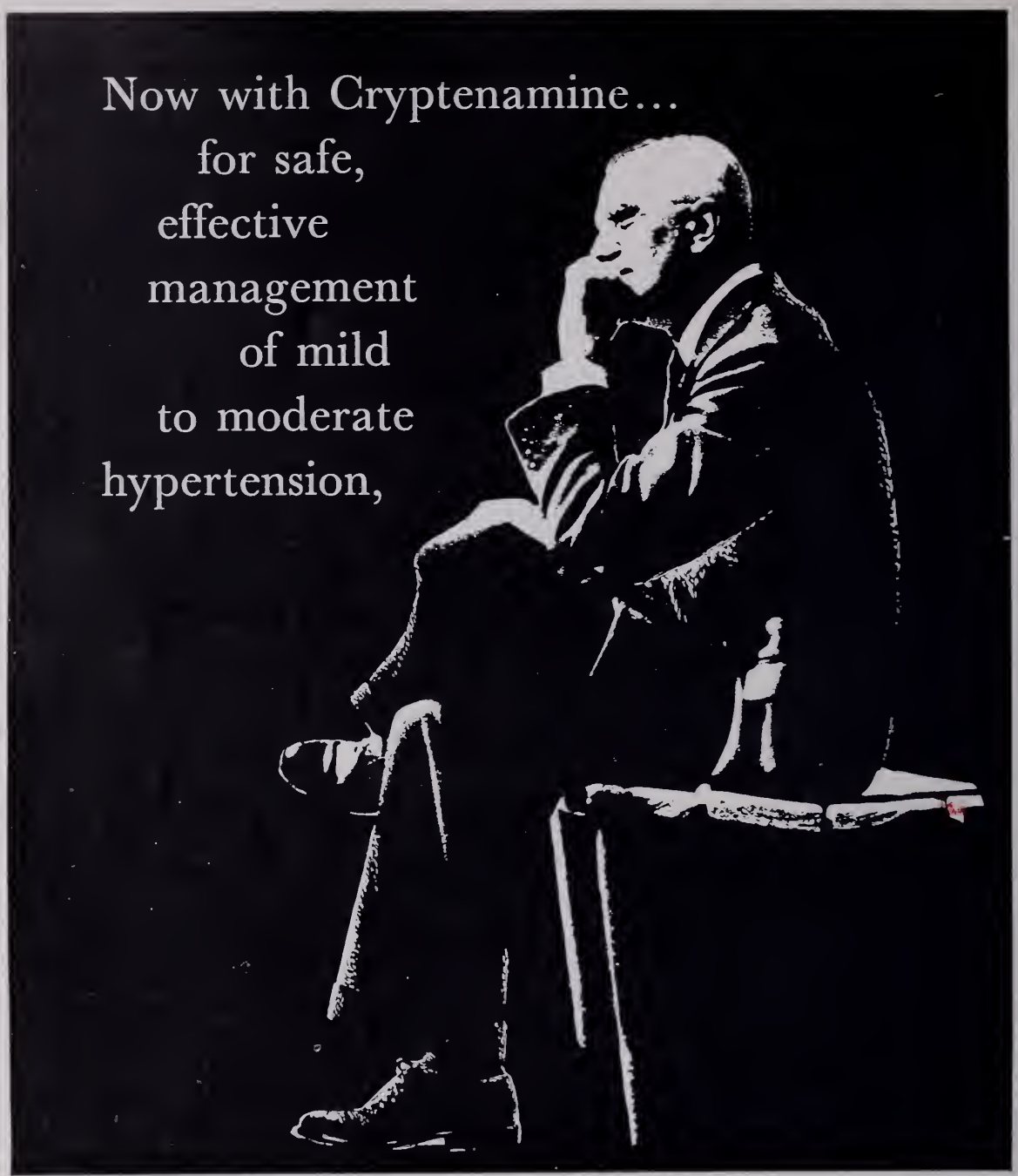


regardless of etiology

MSD MERCK SHARP & DOHME
DIVISION OF MERCK & CO., Inc., PHILADELPHIA 1, PA.

CREMOMYCIN is a trademark of Merck & Co., Inc.

Now with Cryptenamine... for safe, effective management of mild to moderate hypertension,



℞ Veratrite®

Prescribed with confidence 8,863,769 times Veratrite continues to be the antihypertensive of choice for treating geriatric patients.

Veratrite effectively reduces blood pressure through action on the sympathetic nervous system, without detriment to the cardiac output.

Each VERATRITE tabule contains:

Cryptenamine (tannates) 40 C.S.R.* Units	
Sodium nitrite	1 gr.
Phenobarbital	¼ gr.

*Carotid Sinus Reflex

IRWIN, NEISLER & CO. • DECATUR, ILLINOIS

Neisler

Why G.I. patients abandon therapy

Bandes[1] reports that G.I. patients often abandon therapy because of the unpleasant side effects of the prescribed drugs—blurred vision, dry mouth and loginess.

In a clinical trial of such patients who had abandoned other therapy, 90% had gratifying relief of symptoms, and 85% were free of *any* side effects on

Milpath®

®Miltown + *anticholinergic*

Direct antispasmodic action, plus control of anxiety and tension, provide rapid, safe relief of pain, spasm and anxiety—without the side effects of belladonna, bromides or barbiturates.

FORMULA: Each scored tablet contains:
meprobamate 400 mg., tridihexethyl chloride 25 mg.
(formerly supplied as the iodide).

DOSAGE: 1 tablet t.i.d., with meals, and two at bedtime.

1. Bandes, J.: Combined Drug Therapy in Gastrointestinal Disturbances; Increased benefit through diminished side reactions, Am. J. Gastroenterology, *30*:600, Dec. 1958.

WALLACE LABORATORIES *New Brunswick, N. J.*

B. I. D.

ULCER CONTROL

all day

NEW

DARICON*

oxyphencyclimine hydrochloride

TABLETS

all night

patient comfort

Natural Prolonged Action–The action of DARICON, a more potent and better tolerated anticholinergic, is consistently prolonged because it has a unique chemical structure and is not dependent on "mechanical" means (e.g., special coating, adsorption on ion-exchange resin).

In addition to peptic ulcer, DARICON is also indicated for other gastrointestinal disorders characterized by hypersecretion, hypermotility and spasm (e.g., functional bowel syndrome, chronic nonspecific ulcerative colitis and biliary tract disease).

Dosage: 10 mg. b.i.d. (morning and evening). **Supply:** Tablets, 10 mg., white, scored. Bottles of 60 and 500.

*Trademark



EVEN REFRACTORY CASES RESPOND

Pfizer *Science for the world's well-being*

PFIZER LABORATORIES

Division, Chas. Pfizer & Co., Inc.

Brooklyn 6, N. Y.

A workhorse "mycin" for common infections



respiratory infections

prompt, high blood levels

consistently reliable and reproducible blood levels

minimal adverse reactions

With well-tolerated CYCLAMYCIN, you will find it possible to control many common infections rapidly and to do so with remarkable freedom from untoward reactions. CYCLAMYCIN is indicated in numerous bacterial invasions of the respiratory system—lobar pneumonia, bronchopneumonia, tracheitis, bronchitis, and other acute infections. It has been proved effective against a wide range of organisms, such as pneumococci, H. influenzae, streptococci, and many strains of staphylococci, including some resistant to other "mycins." Supplied as Capsules, 125 and 250 mg., vials of 36; Oral Suspension, 125 mg. per 5-cc. teaspoonful, bottles of 2 fl. oz.

new

CYCLAMYCIN®

Triacetyloleandomycin, Wyeth

PHYSICIANS' COUNCIL FOR INFORMATION ON DRUG THERAPY

Conforms to Code for Advertising

Wyeth®
Philadelphia 1, Pa.

NOW—YOU CAN GET THE
UNSURPASSED ADVANTAGES
OF ARISTOCORT
IN SALICYLATE
COMBINATION

Aris

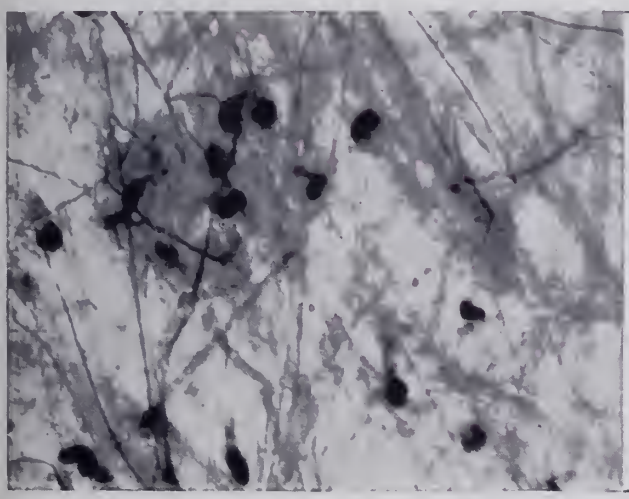
Aristogesic combines the *anti-inflammatory* effects of Aristocort® Triamcinolone with the *analgesic* action of a most potent salicylate. This means that the dosage of each is *substantially lower* than that ordinarily required for each agent alone. With Aristogesic the physician has exceptionally wide latitude in adjusting the dosage to the lowest effective level.

The possibility of gastric distress from either salicylamide or corticosteroid is minimized because of lower dosage required. This is further reduced by the buffer action of aluminum hydroxide. And the ascorbic acid helps meet the increased need for this vitamin in stress conditions. Because of the low dosage, side effects with Aristogesic have been relatively infrequent and minor in nature. However, more serious side effects have traditionally been observed on all corticosteroid therapy. Patients on long-term Aristogesic therapy should, therefore, be observed carefully.

ogesic*

Steroid—Analgesic Compound LEDERLE

for relief of *chronic*—but *less severe* pain of rheumatic origin



Indications: Mild cases of rheumatoid arthritis, tenosynovitis, synovitis, bursitis, mild spondylitis, myositis, fibrositis, neuritis and certain muscular strains.

Dosage: Average initial dosage: 2 capsules 3 or 4 times daily. Maintenance dosage to be adjusted according to response.

Each Aristogesic Capsule contains:

ARISTOCORT® Triamcinolone	0.5 mg.
Salicylamide	325 mg.
Aluminum Hydroxide	75 mg.
Ascorbic Acid	20 mg.

Supply: Bottles of 100.

Collagen tissue (x250)

*TRADEMARK

Lederle

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

For every topical indication, a Burroughs Wellcome 'SPORIN'...



OINTMENT: Tubes of ⅛ oz. and ½ oz. (with applicator tip) for ophthalmic or dermatologic application.

OTIC DROPS: Bottles of 5 cc. with sterile dropper.



OINTMENT: Tubes of ½ and 1 oz. and tubes of ⅛ oz. with ophthalmic tip.
OPHTHALMIC SOLUTION: Bottles of 10 cc. with sterile dropper.
NEW { LOTION: Plastic squeeze bottles of 20 cc.
POWDER: Shaker-top bottles of 10 Gm.



OINTMENT: Tubes of ½ oz., 1 oz. and ⅛ oz. (ophthalmic tip).

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.

If they need nutritional support . . .



they deserve

GEVRAL®

Vitamin-Mineral Supplement Lederle

CAPSULES—14 VITAMINS—11 MINERALS

LEDERLE LABORATORIES, a Division of
AMERICAN CYANAMID COMPANY, Pearl River, New York

Lederle

IN OFFICE SURGERY†

ELECTIVE AND TRAUMATIC

use

XYLOCAINE® HCl SOLUTION

(brand of lidocaine*)

as a local or topical anesthetic



Xylocaine is routinely fast, profound and well tolerated. Its extended duration insures greater postoperative comfort for the patient. Its potency and diffusibility render reinjection virtually unnecessary. It may be infiltrated through cut surfaces permitting pain-free exploration and longer suturing time.

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ASTRA PHARMACEUTICAL PRODUCTS, INC., WORCESTER 6, MASSACHUSETTS, U. S. A.

† warts; moles; sebaceous cysts; benign tumors; wounds; lacerations; biopsies; tying superficial varicose veins; minor rectal surgery; simple fractures; compound digital injuries (not involving tendons, nerves or bones)

SEE PDR

*U.S. PAT. NO. 2,441,498 MADE IN U.S.A.

℞ Tao

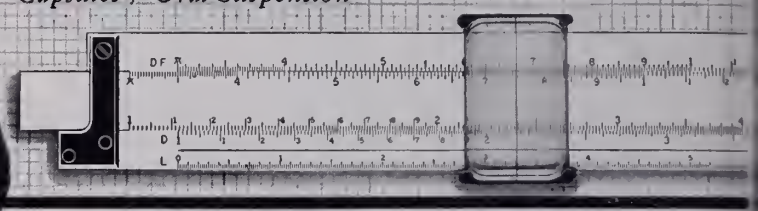
PRONOUNCED TAY-O

(triacetyloleandomycin)

Capsules / Oral Suspension

* *designed for superior control of common Gram-positi infections*

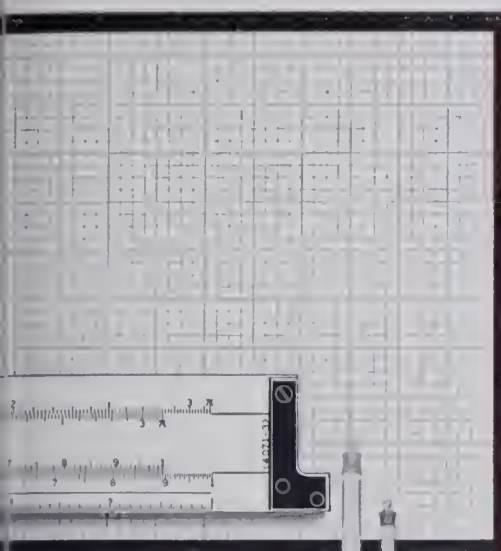




in the patient:

95% effective in published cases[1-8]

Conditions treated	No. of Patients	Cured	Improved	Failure
ALL INFECTIONS	558	448	80	30
Respiratory infections	258	208	31	19
Pharyngitis and/or tonsillitis	65	58	5	2
Pneumonia	90	66	17	7
Infectious asthma	44	38	–	6
Otitis media	31	29	2	–
Other respiratory (bronchitis, bronchiolitis, bronchiectasis, pneumonitis, laryngotracheitis, strep throat)	28	17	7	4
Skin and soft tissue infections	230	191	38	1
Infected wounds, incisions and lacerations	41	33	8	–
Abscesses	51	43	8	–
Furunculosis	58	51	6	1
Acne, pustular	43	28	15	–
Pyoderma	19	19	–	–
Other skin and soft tissue (infected burns, cellulitis, impetigo, ulcers, others)	18	17	1	–
Genitourinary infections	28	19	3	6
Acute pyelitis and cystitis	10	8	2	–
Urethritis with gonorrhea or cystitis	8	8	–	–
Pyelonephritis	4	1	–	3
Salpingitis	5	1	1	3
Pelvic inflammation with endometriosis	1	1	–	–
Miscellaneous (adenitis, enteritis, enterocolitis, subacute bacterial endocarditis, fever, hematoma, staphylococcus carriers, osteomyelitis, tenosynovitis, septic arthritis, acute bursitis, periarthritis)	42	30	8	4

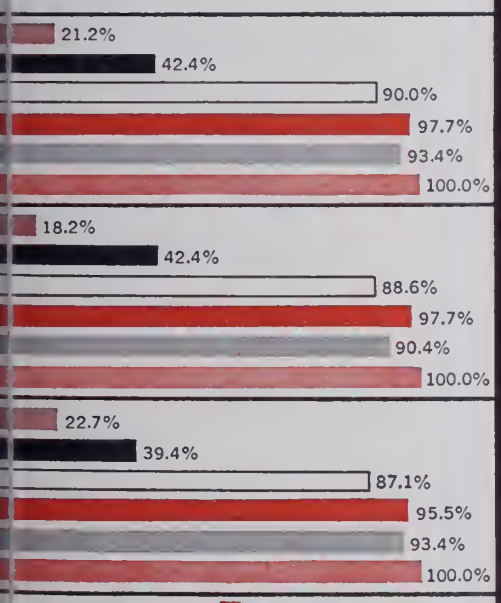


the
oratory:



90% effective
nst resistant staph

RATIVE TESTS BY THREE METHODS
TUBE DILUTION, CYLINDER PLATE)
STAPHYLOCOCCI[9]



biotic A 2-10 units — Tao 2-15 mcg.
biotic B 5-30 mcg. — Antibiotic D 2-15 mcg.
biotic C 5-30 mcg. — Antibiotic E 5-30 mcg.

age of organisms inhibited by the range of
trations listed for each antibiotic.

Other Tao advantages:

Rapidly absorbed – stable in gastric acid,[7] TAO needs no retarding protective coating

Low in toxicity – freedom from side effects in 96% of patients treated; cessation of therapy is rarely required

Highly palatable – "practically tasteless"[7] active ingredient in a pleasant cherry-flavored medium.

Dosage and Administration: Dosage varies according to the severity of the infection. **For adults,** the average dose is 250 mg. q.i.d.; to 500 mg. q.i.d. in more severe infections. **For children** 8 months to 8 years, a daily dose of approximately 30 mg./Kg. body weight in divided doses has been found effective. Since TAO is therapeutically stable in gastric acid, it may be administered without regard to meals.

Supplied: TAO Capsules – 250 mg. and 125 mg., bottles of 60. TAO for Oral Suspension – 1.5 Gm., 125 mg. per teaspoonful (5 cc.) when reconstituted; unusually palatable cherry flavor; 2 oz. bottle.

References: 1. Koch, R., and Asay, L. D.: J. Pediat., in press. 2. Leming, B. H., Jr., et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 3. Mellman, et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 4. Olansky, S., and McCormick, G. E., Jr.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 5. Shubin, H., et al.: Antibiotics Annual 1957-1958, New York, N. Y., Medical Encyclopedia, Inc., 1958, p. 679. 6. Isenberg, H., and Karelitz, S.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 7. Wennersten, J. R.: Antibiotic Med. & Clin. Therapy 5:527 (Aug.) 1958. 8. Kaplan, M. A., and Goldin, M.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 9. Truant, J. P.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958.

Tao dosage forms – for specific clinical situations

Tao Pediatric Drops

For children – flavorful, easy to administer.

Supplied: When reconstituted, 100 mg. per cc. Special calibrated droppers – 5 drops (approx. 25 mg.) and 10 drops (approx. 50 mg.). 10 cc. bottle.

Tao-AC (Tao analgesic, antihistaminic compound)

To eradicate pain and physical discomfort in respiratory disorders.

Supplied: In bottles of 36 capsules.

Taomid* (Tao with triple sulfas)

For dual control of Gram-positive and Gram-negative infections.

Supplied: Tablets, bottles of 60. Oral Suspension, bottles of 60 cc.

Intramuscular or Intravenous

For direct action – in clinical emergencies.

Supplied: In 10 cc. vials.

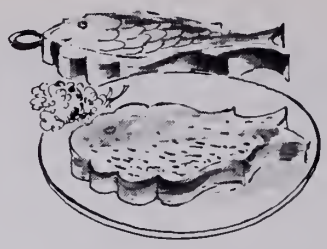
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Roerig

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Science for the World's Well-Being



Consommé



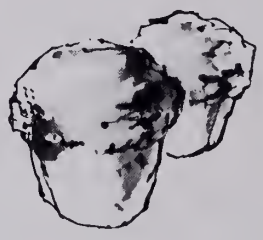
Flaked Fish



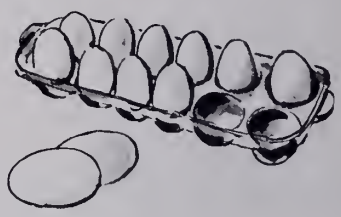
Rice Dessert



Meat Patties



Vegetable Puff



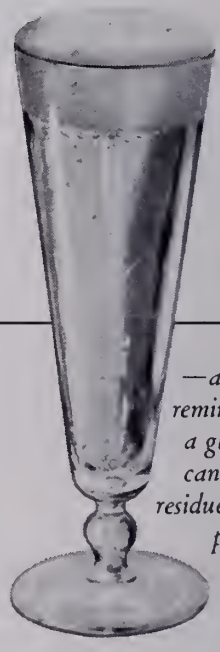
Eggs



Farina-Plum Parfait



Banana Split Salad



Your patient has a wide choice of unseasoned, strained or chopped foods

—and may we remind you that a glass of beer can make low-residue diets more palatable?

The Low Residue Diet

Consommé can be served jellied or hot. Puréed vegetables folded into well-beaten egg can be baked to a puff. Chopped beef moistened with broth and mixed with bread crumbs shapes into patties. Eggs can be soft or hard-cooked by simmering. Flaked fish in lemon gelatin looks true to nature when your patient uses a mold.

For banana-split salad he can try cottage cheese on banana and top with puréed apricots. Rice cooked in pineapple juice, water and sugar makes a golden dessert. For a parfait, try layers of farina pudding and puréed plums.

Of course, you'll tell your patient just which foods you want him to have—and whether he can enjoy a glass of beer* with his meals.

*pH—4.3, 104 Calories/8 oz. glass (Average of American Beers)

United States Brewers Foundation

Beer—America's Beverage of Moderation

If you'd like reprints of this and 11 other diets, please write United States Brewers Foundation, 535 Fifth Avenue, New York 17, N. Y.

as
they
like
it...

cherry-flavored

syrup pediatric drops



as
they
need
it...

ACHROMYCIN® V

Tetracycline with Citric Acid Lederle

- broad spectrum control of more than 90 per cent of antibiotic-susceptible infections seen in general practice[1]
- fast, high concentrations in body fluids and tissues
- no irreversible side effects reported, excellently tolerated
- readily miscible in water, juices, formula.

ACHROMYCIN V: 10 cc. plastic dropper bottle for precise dosage; 100 mg. per cc. (20 drops). *Dosage:* one drop per pound body weight per day.

ACHROMYCIN V Syrup: Each teaspoonful (5cc.) contains equiv. 125 mg. tetracycline HCl. Bottles of 2 and 16 fl. oz. *Dosage:* at 45 lbs., one teaspoonful 4 times daily; adjust for other weights.

1. *Based on six-month National Physicians Survey.*

Lederle LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

AN AMES CLINIQUICK™

CLINICAL BRIEFS FROM MODERN PRACTICE

What differentiates "renal diabetes" (renal glycosuria) from diabetes mellitus?

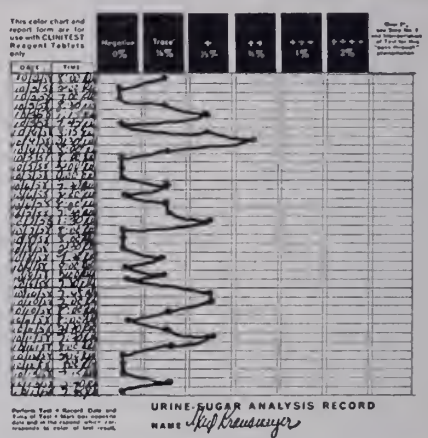
Blood sugar levels. In renal glycosuria they are normal; in untreated diabetes, fasting blood sugars are usually 130 mg.% or over and postprandial levels 170 mg.%, or more.

Source: Joslin, E. P.; Root, H. F.; White, P., and Marble, A.: The Treatment of Diabetes Mellitus, ed. 9, Philadelphia, Lea & Febiger, 1952, pp. 701-702.

A "URINE-SUGAR PROFILE" FOR CLOSER CONTROL

The new CLINITEST Urine-Sugar Analysis Set contains an improved Analysis Record form that enables even closer control of the *moderate* and the *severe* diabetic. Daily urine-sugar readings may be connected to produce a graph—a day-to-day "profile" that reveals at a glance individual trends and degree of control.

*GP *16*:121 (August) 1957.



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CLINITEST®

BRAND

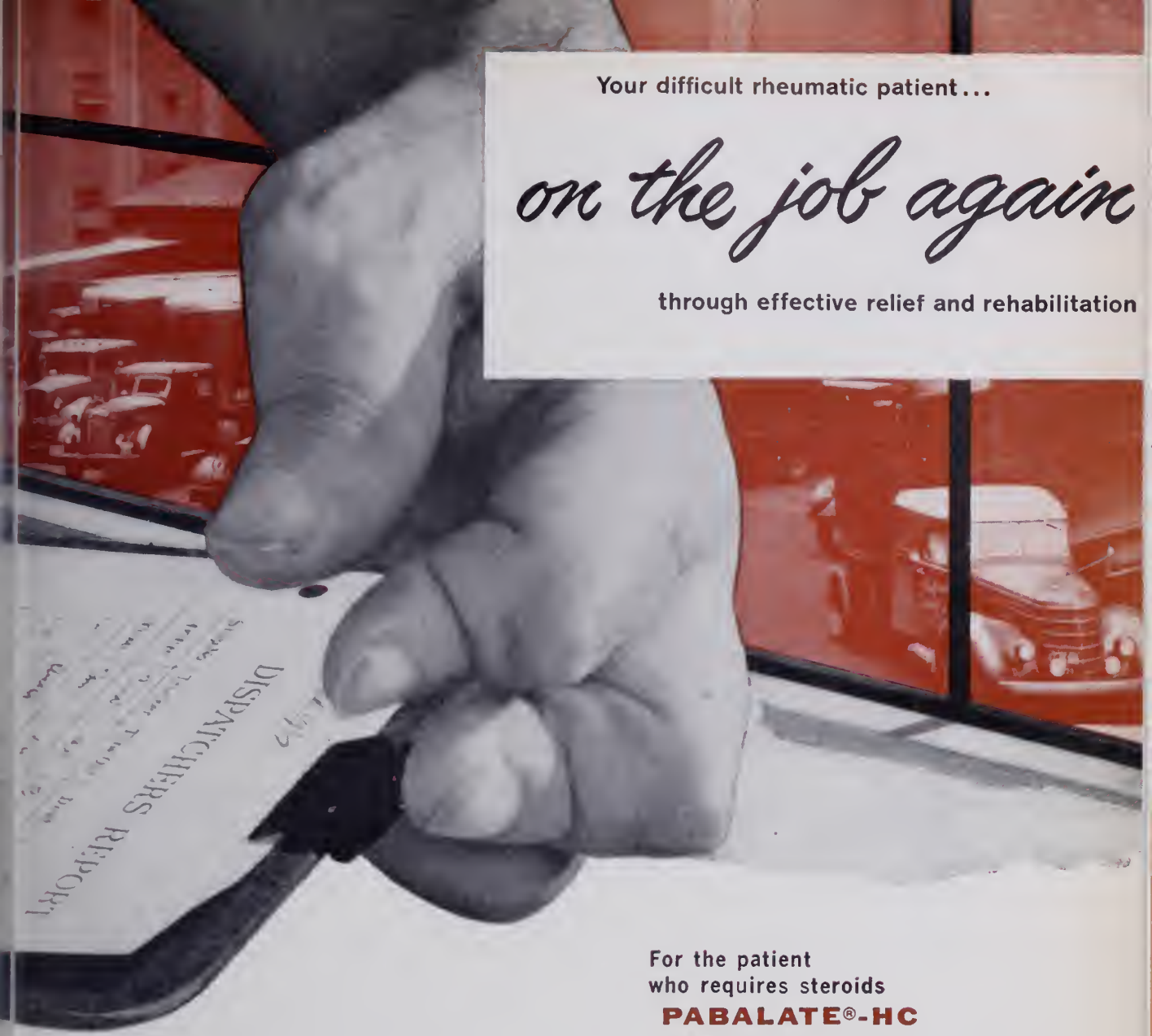


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FOR EVEN BETTER CONTROL OF THE MODERATE AND THE SEVERE DIABETIC

the STANDARDIZED urine-sugar test for reliable quantitative estimations "...the most satisfactory method for home and office routine testing."*

AMES
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Elkhart • Indiana
Toronto • Canada



Your difficult rheumatic patient...

on the job again

through effective relief and rehabilitation

or the patient who does not require steroids

PABALATE®

eciprocally acting nonster-
id antirheumatics . . . more
ffective than salicylate alone.

each enteric-coated tablet:

odium salicylate U.S.P.....0.3 Gm. (5 gr.)
odium
para-aminobenzoate .....0.3 Gm. (5 gr.)
scorbic acid .....50.0 mg.

or for the patient
who should avoid sodium

PABALATE®-Sodium Free

Pabalate, with sodium salts replaced by potassium salts.

In each enteric-coated tablet:

Potassium salicylate .....0.3 Gm. (5 gr.)
Potassium
para-aminobenzoate .....0.3 Gm. (5 gr.)
Ascorbic acid .....50.0 mg.

**For the patient
who requires steroids**

PABALATE®-HC

(PABALATE WITH HYDROCORTISONE)

Comprehensive synergistic combination of steroid and nonsteroid antirheumatics... full hormone effects on low hormone dosage . . . satisfactory remission of rheumatic symptoms in 85% of patients tested.

In each enteric-coated tablet:

Hydrocortisone (alcohol) ..... 2.5 mg.
Potassium salicylate ..... 0.3 Gm.
Potassium para-aminobenzoate.. 0.3 Gm.
Ascorbic acid .....50.0 mg.

PABALATE® Robins PABALATE®-HC

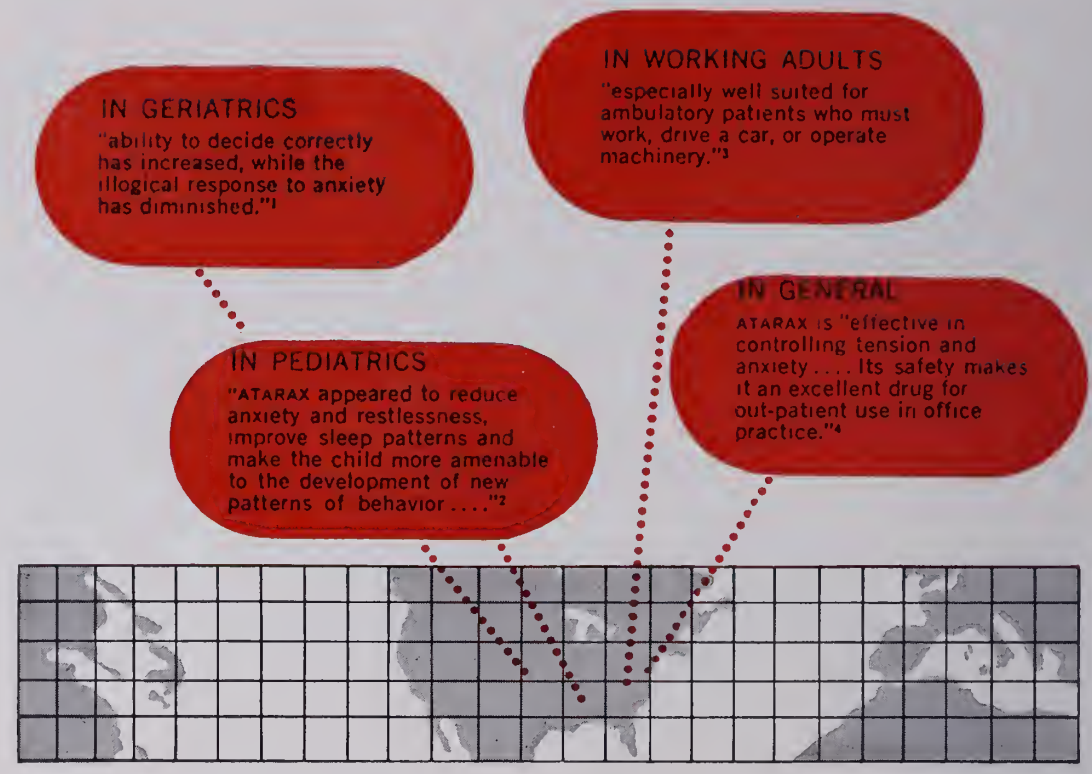
or steroid or non-steroid therapy: SAFE DEPENDABLE ECONOMICAL

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re-evaluating tranquilizers?

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(brand of hydroxyzine)



INVESTIGATORS AGREE ON OPTIMAL ATARAX DOSAGES

For childhood behavior disorders	10 mg. tablets Syrup	3-6 years, one tablet t.i.d. over 6 years, two tablets t.i.d. 3-6 years, one tsp. t.i.d. over 6 years, two tsp. t.i.d.
For adult tension and anxiety	25 mg. tablets Syrup	one tablet q.i.d. one tbsp. q.i.d.
For severe emotional disturbances	100 mg. tablets	one tablet t.i.d.
For adult psychiatric and emotional emergencies	Parenteral Solution	25-50 mg. (1-2 cc.) intramuscularly, 3-4 times daily, at 4-hour intervals. Dosage for children under 12 not established.

Supplied: Tablets, bottles of 100. Syrup, pint bottles. Parenteral Solution, 10 cc. multiple-dose vials.

References: 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America 5:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. 57:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. 58:1684 (May 15) 1958. 5. Coirault, M., et al.: Presse méd. 64:2239 (Dec. 26) 1956. 6.Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

ATARAX®

Rx PFIZER

New York 17, N. Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being

In the Treatment of Rheumatic Disorders Greater stability of maintenance dosage minimizes risks of hormonal imbalance

In Sterazolidin, the anti-inflammatory actions of prednisone and Butazolidin* are combined to permit lower effective dosage of each. Clinical experience has indicated that patients can be well maintained on this combination over prolonged periods with relatively low, stable dosage levels of each component, thus minimizing the problems arising from excessively high doses of corticosteroids. Other side effects have also been gratifyingly few. Antacid and spasmolytic components are contained in Sterazolidin capsules for the benefit of patients with gastric sensitivity.

Sterazolidin®: Each capsule contains prednisone 1.25 mg.; phenylbutazone 50 mg.; dried aluminum hydroxide gel 100 mg.; magnesium trisilicate 150 mg.; homatropine methylbromide 1.25 mg.

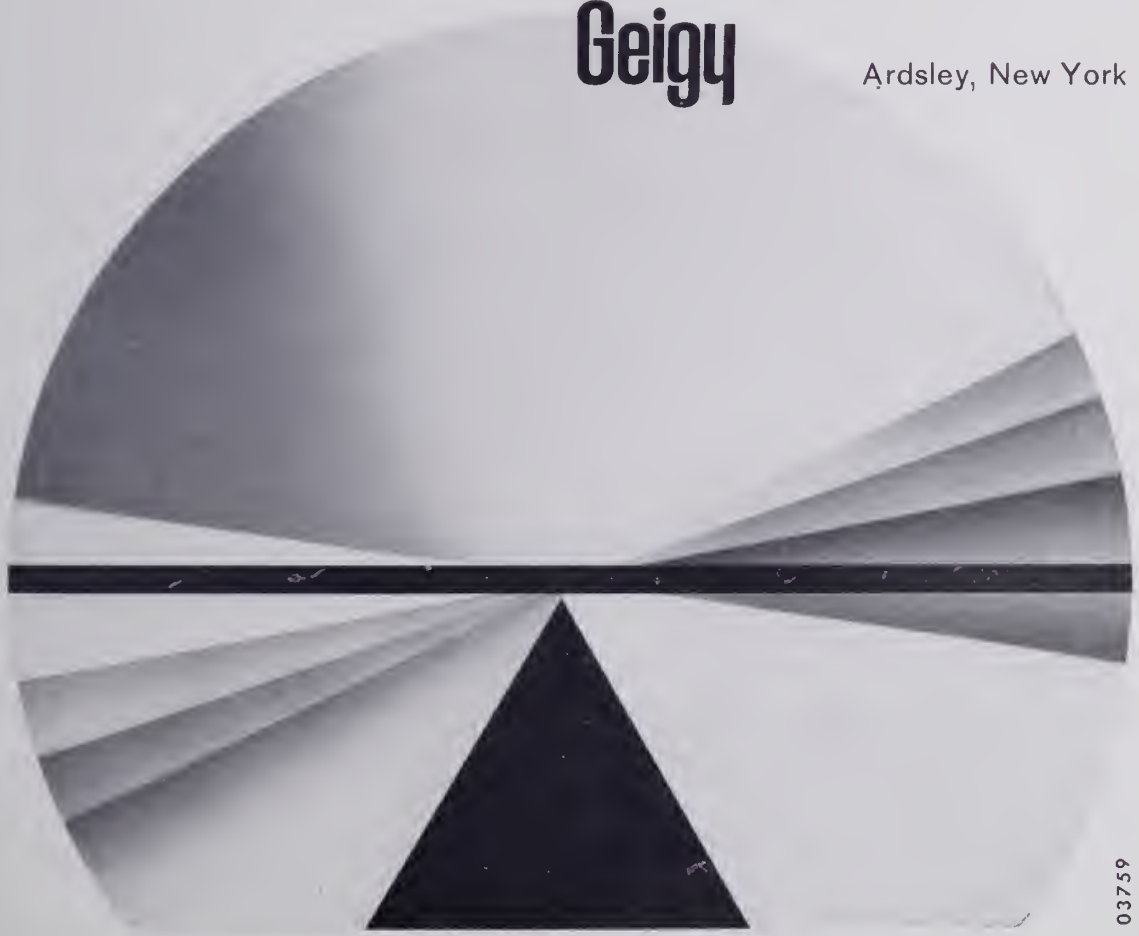
Detailed information available on request.

*Geigy's trademark for phenylbutazone—Reg. U. S. Pat. Off.

new **Sterazolidin®** Capsules

prednisone-phenylbutazone, Geigy

Geigy Ardsley, New York



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THE HOUSE-CALL ANTIBIOTIC

Wide range of action is reassuring when culture and sensitivity tests are impractical.

Effectiveness demonstrated in more than 6,000,000 patients since original product introduction (1956).

COSA-SIGNEMYCIN®

glucosamine-potentiated tetracycline with triacetyloleandomycin

capsules ■ *oral suspension* ■ *pediatric drops*

125 mg.
250 mg.

raspberry flavored, 2 oz. bottle, 125 mg. per teaspoonful (5 cc.)

raspberry flavored, 10 cc. bottle (with calibrated dropper), 5 mg. per drop (100 mg. per cc.)

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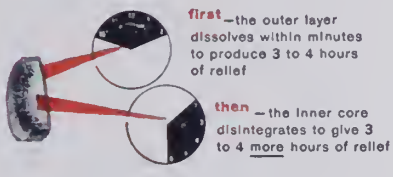
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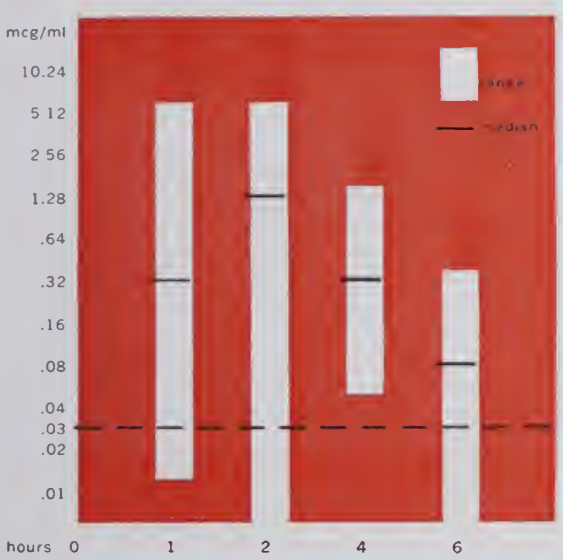
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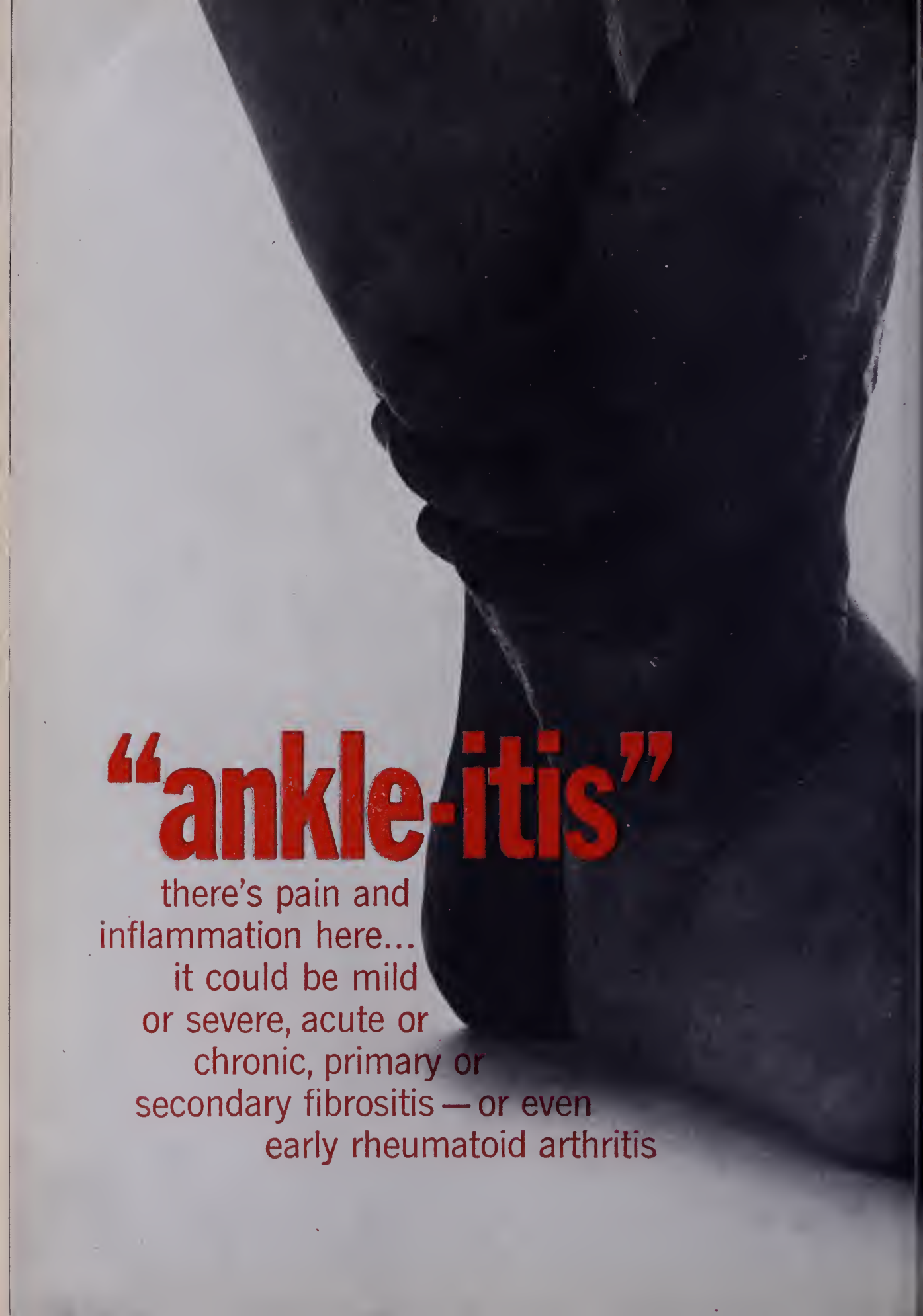
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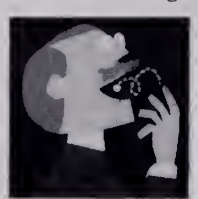
can be crushed and sprinkled on cereal or other food



can be dissolved in water, juice or milk



can be sucked and will dissolve like a lozenge



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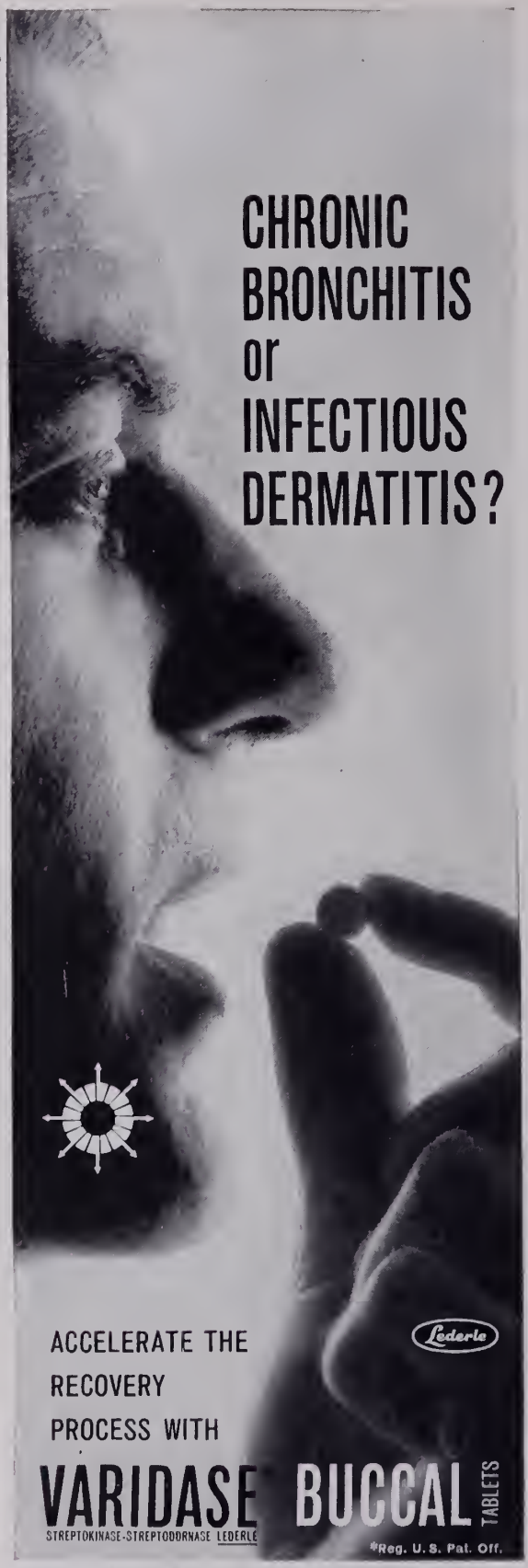
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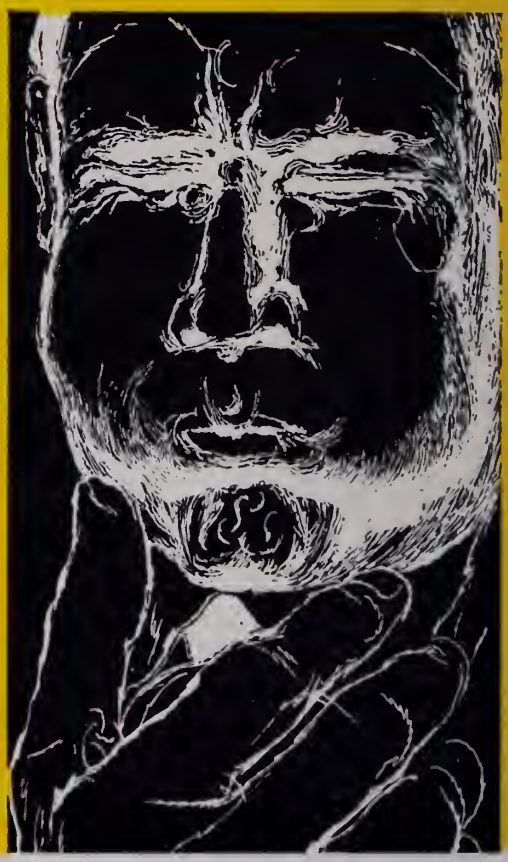
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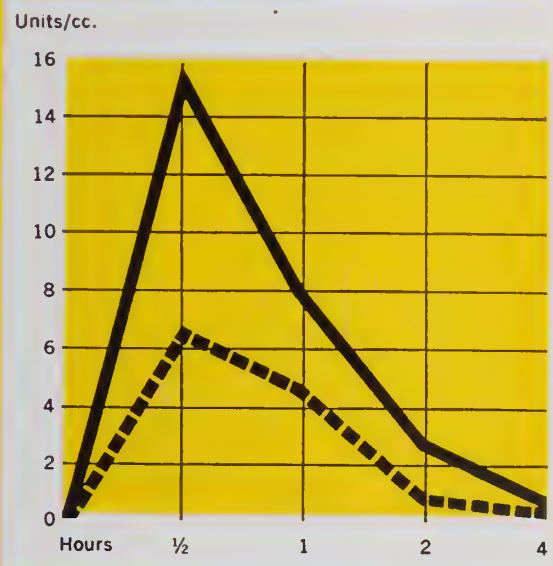
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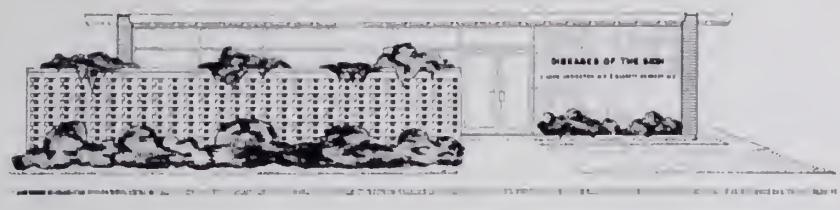
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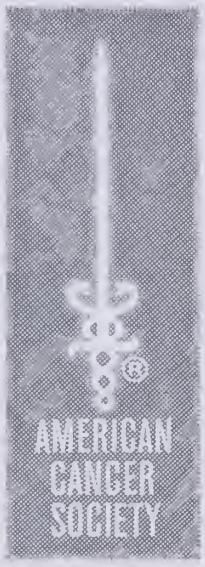
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Since the Salk poliomyelitis vaccine first became available, the majority of the people of Louisiana have received it enthusiastically. However, there is still a considerable segment of the population under 40 years of age that remain unimmunized. We believe this to be a result of indifference or procrastination on the part of these individuals and not because of fear of the safety of the vaccine. It becomes then a problem of motivation. It is the intention of the State Board of Health to wage a campaign of public health education to stimulate interest in the vaccine and it is hoped that the physicians of the state will continue to give their active support to this program, as they have in the past. Michigan suffered a devastating outbreak of poliomyelitis last year because too many people remained unimmunized. Let's make sure that Louisiana is not next.



Louisiana State Board of Health

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SINCE THE INTRODUCTION OF ALUMINUM HYDROXI

IN 1929

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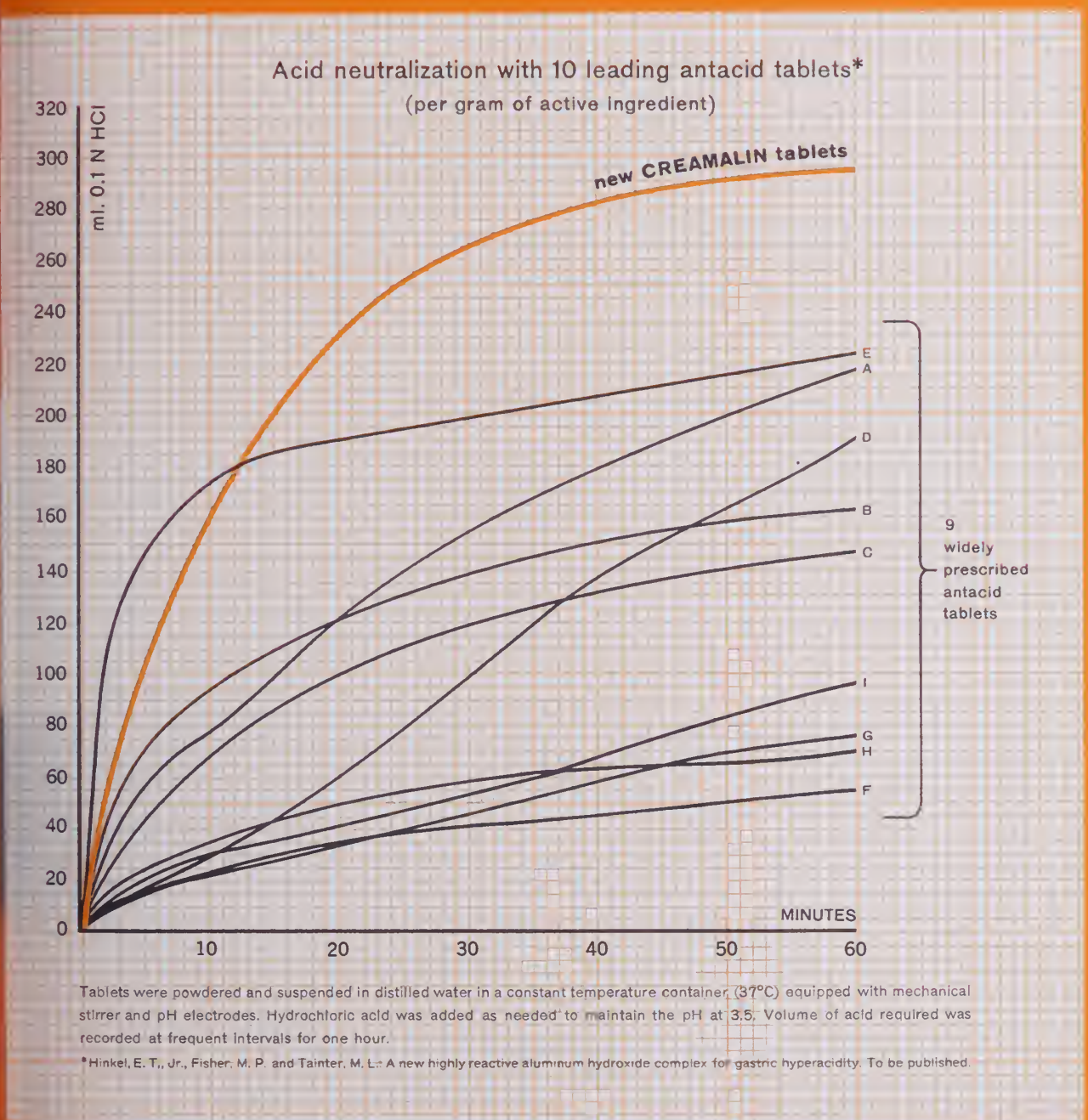
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1. *Neutralizes acid faster (quicker relief)*
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5. *More pleasant to take*

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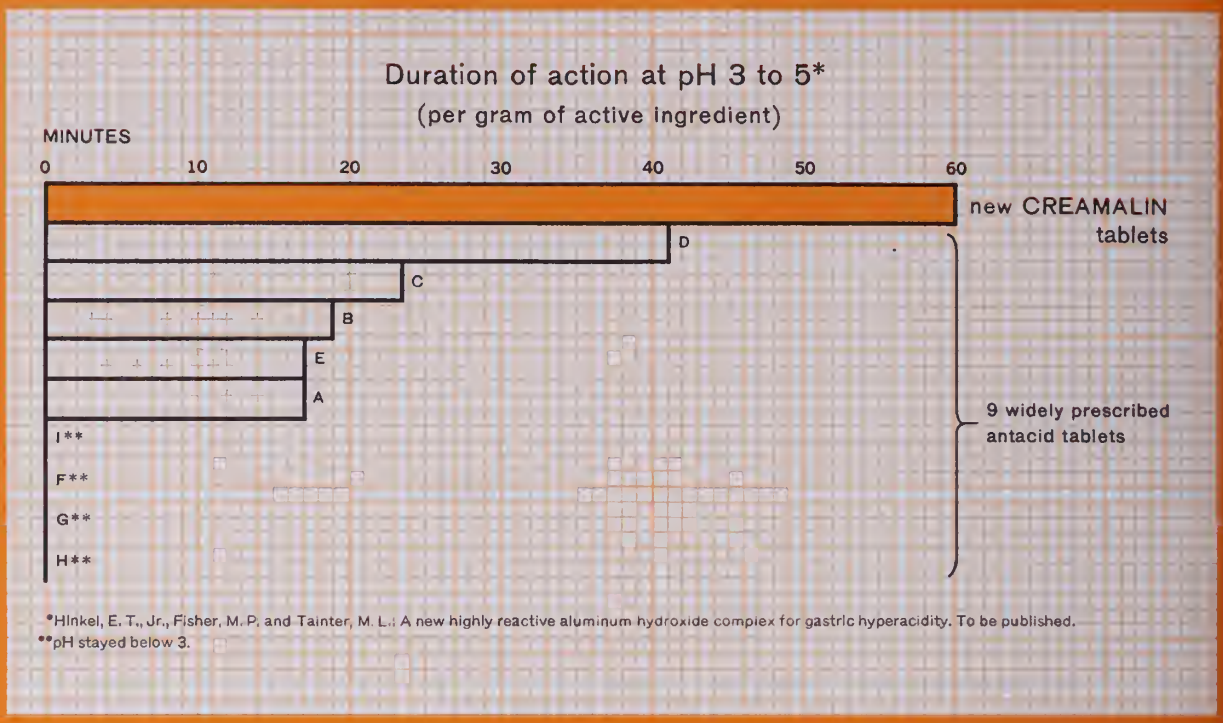


Tablets were powdered and suspended in distilled water in a constant temperature container (37°C) equipped with mechanical stirrer and pH electrodes. Hydrochloric acid was added as needed to maintain the pH at 3.5. Volume of acid required was recorded at frequent intervals for one hour.

*Hinkel, E. T., Jr., Fisher, M. P. and Tainter, M. L.: A new highly reactive aluminum hydroxide complex for gastric hyperacidity. To be published.

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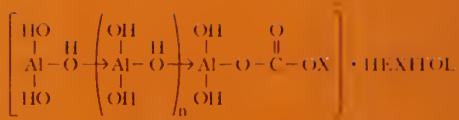
*Hinkel, E. T., Jr., Fisher, M. P. and Tainter, M. L.: A new highly reactive aluminum hydroxide complex for gastric hyperacidity. To be published.
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These antihistamines block the effect of histamine on the nasal and paranasal capillaries, preventing dilation and exudation.[3] *This is not enough;* by the time the physician is called on to provide relief, histamine damage is usually present and should be counteracted.

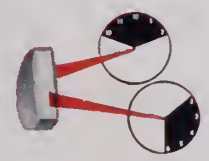
The decongestive action of orally active phenylpropanolamine helps contract the engorged capillaries, reducing congestion and bringing prompt relief from nasal stuffiness, rhinorrhea, sneezing and sinusitis.[4,5]

TRIAMINIC is orally administered, systemically distributed and reaches *all* respiratory membranes, avoiding nose drop addiction and rebound congestion.[6,7] TRIAMINIC can be prescribed for prompt relief in summer allergies, including hay fever.

References: 1. Sheldon, J. M.: Postgrad. Med. 14:465 (Dec.) 1953. 2. Hubbard, T. F. and Berger, A. J.: Annals Allergy p. 350 (May-June) 1950. 3. Kline, B. S.: J. Allergy 19:19 (Jan.) 1948. 4. Goodman, L. S. and Gilman, A.: Pharmacol. Basis Ther., Macmillan, New York, 1956, p. 532. 5. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 6. Lhotka, F. M.: Illinois M.J. 112:259 (Dec.) 1957. 7. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

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effective anticonvulsants for most clinical nee

bibliography: (1) Carter, S. M.: *M. Clin. North America:* 315 (March) 1953. (2) Chao, D. H.: *Ibid.*, p. 465. (3) G man, L. S., & Gilman, A.: The Pharmacological Basis of Therapeutics, ed. 2, New York, MacMillan Company, p. 187. (4) Davidson, D. T., Jr., in Conn, H. F.: Current Therapy 1958, Philadelphia, W. B. Saunders Com 1958, p. 568. (5) Zimmerman, F. T.: *New York J. Med.* 55:2338, 1955. (6) French, E. G.; Rey-Bellet, J., & L W. G.: *New England J. Med.* 258:892 (May 1) 1958.



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ncident with the decrease in seizures there urs improvement in intellectual performance. utary effects of the drug on personality, mem- , mood, cooperativeness, emotional stability, enability to discipline . . . are also observed, metimes independently of seizure control."[3]

drug of choice for control of grand mal and psychomotor seizures, DILANTIN Sodium (di- nylhydantoin sodium, Parke-Davis) is supplied many forms including Kapseals of 0.03 Gm. and 0.1 Gm., in bottles of 100 and 1,000.

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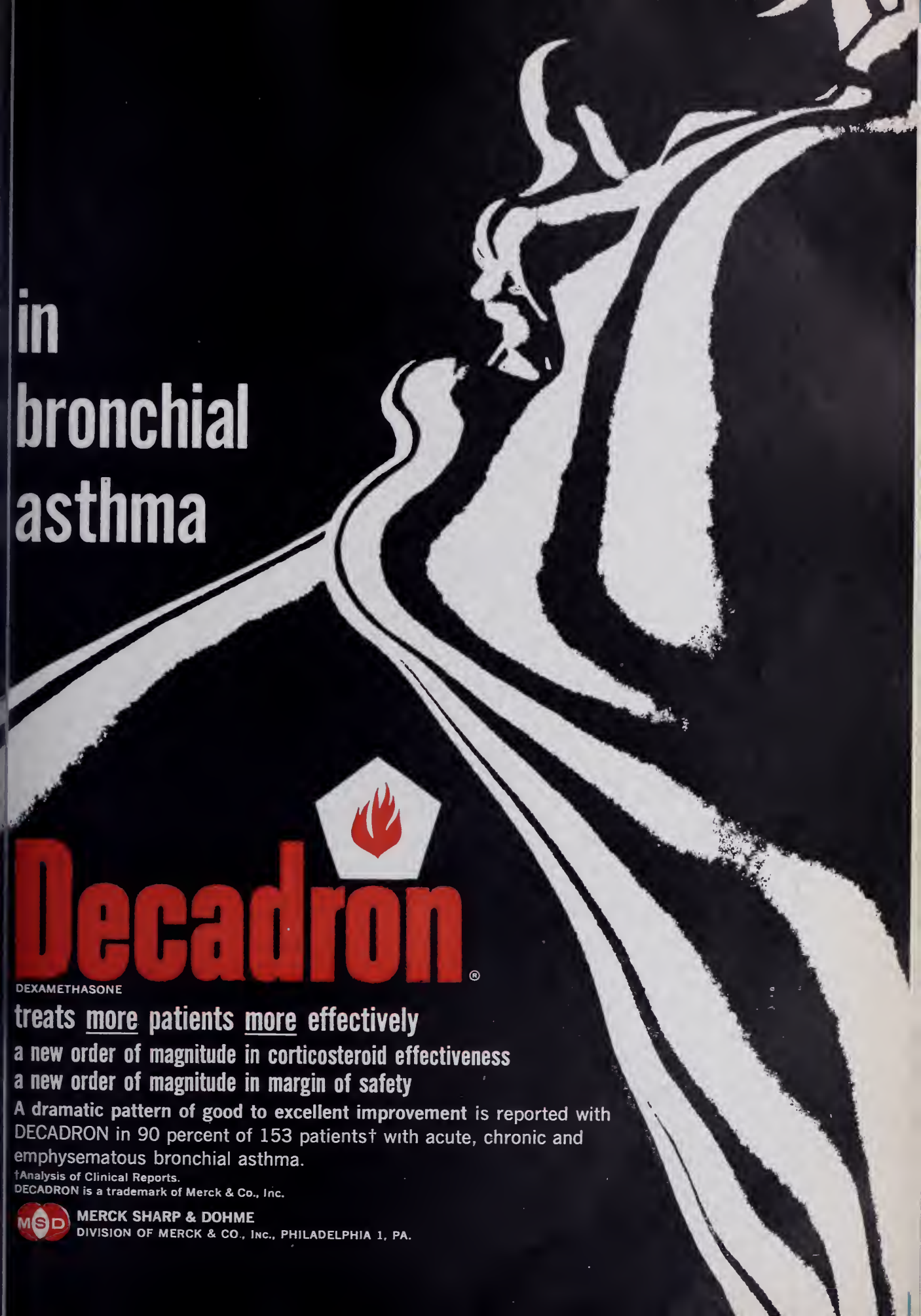
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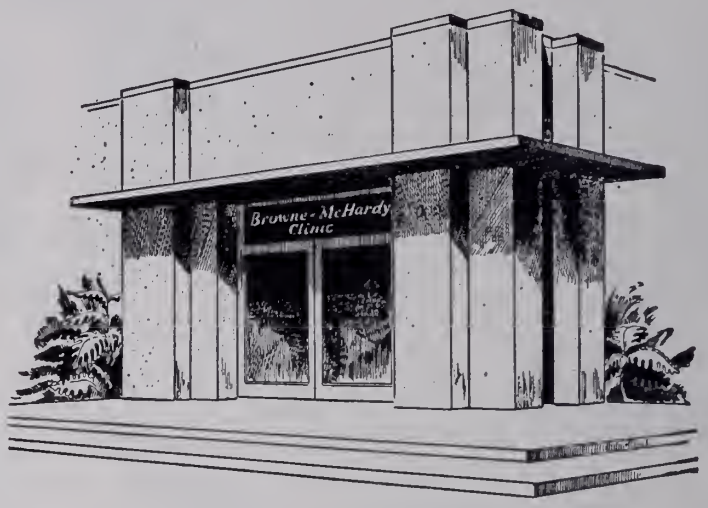

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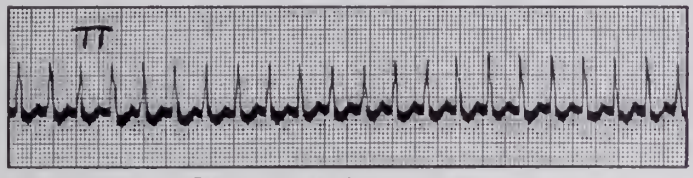
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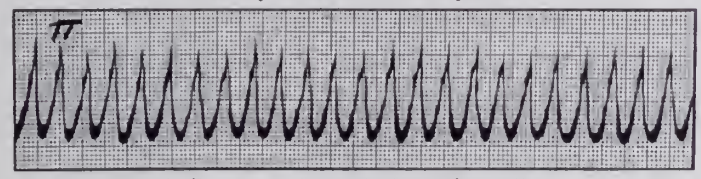
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References: 1. Burrell, Z. I., et al.: Am. J. Cardiol., 1:624 (May) 1958. 2. Hutcheon, D. E., et al.: J. Pharmacol. & Exper. Therap., 118:451 (Dec.) 1956.

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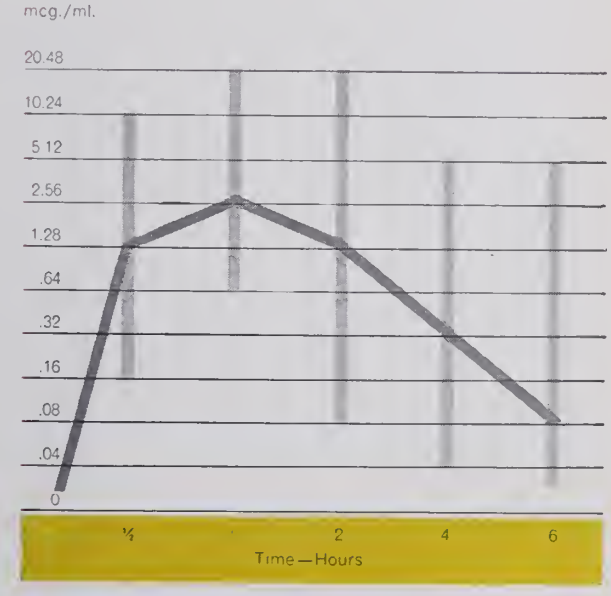
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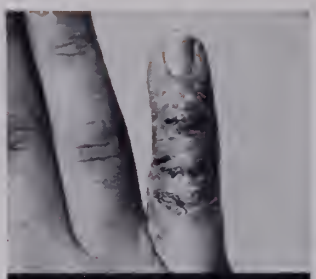
If you're concerned with blood levels . . .

Range of blood levels obtained from one dose of 400 mg. ERYTHROCIN SUSPENSION. Medication was administered to 30 volunteer adults, and represents a dosage of approximately 6 mg./Kg. Bars show ranges—continuous line indicates medians.



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new for total management of itching,[1,2] inflamed,[3,4] infected[5,6] skin lesions



Dermatitis repens [with staph and monilia] 7 weeks duration

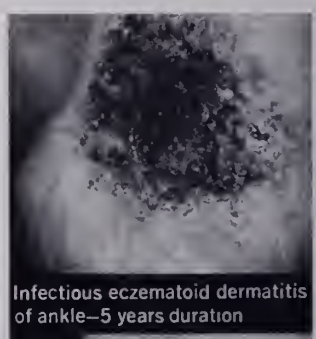


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> "Thirty-one of 38 patients . . . obtained excellent or good control of dermatological lesions . . . [Mycolog] was highly effective, particularly in the management of mixed infections. Several recalcitrant eruptions which had not responded to previous therapy were remarkably responsive to the daily application of this preparation over periods of 2 to 3 weeks."[5]

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References: 1. Shelmire, J.B., Jr.: Monographs on Therapy 3:164 (Nov.) 1958. • 2. Nix, T.E., Jr., and Derbes, V.J.: Monographs on Therapy 3:123 (Nov.) 1958. • 3. Robinson, R.C.V.: Bull. School of Med., U. Maryland 43:54 (July) 1958. • 4. Sternberg, T.H.: Newcomer, V.D., and Reisner, R.M.: Monographs on Therapy 3:115 (Nov.) 1958. • 5. Clark, R.F., and Hallett, J.J.: Monographs on Therapy, 3:153 (Nov.) 1958. • 6. Smith J.G., Jr.; Zawisza, R.J., and Blank, H.: Monographs on Therapy, 3:111 (Nov.) 1958. • 7. Monographs on Therapy, 3:137 (Nov.) 1958. • 8. Howell, C.M., Jr.: North Carolina M.J. 19:449 (Oct.) 1958. • 9. Bereston, E.S.: South. M.J. 50:547 (April) 1957.

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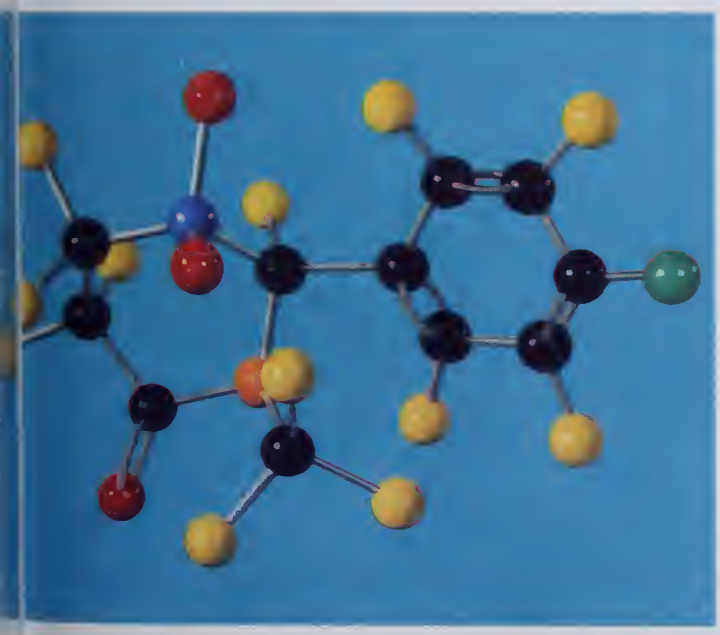
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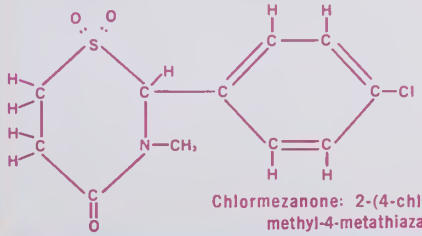
...Equally effective as a TRANQUILIZER

*** tran-qui-lax-ant** (tran'kwi-lak'sant) [< L. tranquillus, quiet; L. laxare, to loosen, as the muscles]



Trancopal, a major development of Winthrop research, is a new orally administered nonhypnotic central relaxant and tranquilizer. It relieves muscle spasm in a variety of musculoskeletal and neurologic conditions and also exerts a marked tranquilizing effect in anxiety and tension states.

Unrelated chemically to any other drug in current use, Trancopal offers a completely new major chemical contribution to therapeutics.



Chlormezanone: 2-(4-chlorophenyl)-3-methyl-4-metathiazanone-1-dioxide

Thoroughly evaluated clinically...

Clinical studies of 4092 patients by 105 physicians[1] have demonstrated that Trancopal often is effective when other drugs have failed. From these studies it is evident that Trancopal can provide more help for a greater number of tense, spastic, and/or emotionally upset patients than can any other chemotherapeutic agent in current use.

In musculoskeletal conditions[1]

effective in 91% of patients

INDICATIONS

- Low back pain (lumbago)
- Bursitis
- Osteoarthritis
- Fibrositis
- Myositis
- Postoperative myalgias
- Neck pain (torticollis)
- Rheumatoid arthritis
- Disk syndrome
- Joint disorders (ankle sprain, tennis elbow, etc.)

By relieving muscle spasm and pain, Trancopal permits early and active purposeful exercise and physical therapy to accomplish maximal benefits for rapid recovery.

Trancopal

Dosage: One Caplet (100 mg.) orally three or four times daily. Relief of symptoms occurs in fifteen to thirty minutes and lasts from four to six hours.

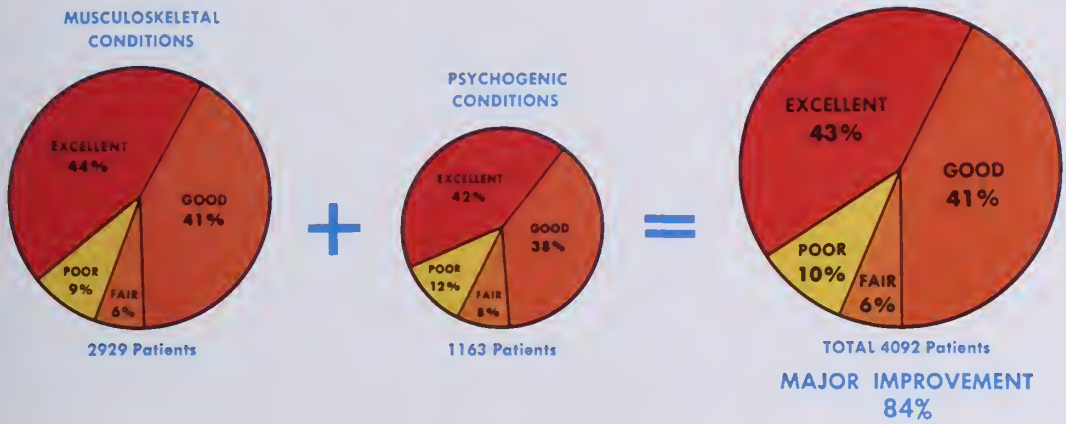
In anxiety and tension states[1]

effective in 88% of patients

INDICATIONS

Anxiety and tension states	Dysmenorrhea
Premenstrual tension	Asthma
Emphysema	Angina pectoris

Because of its exceptional calmative property, Trancopal "...allows the patient to use his energies in a more productive manner in overcoming his basic problem."[2]



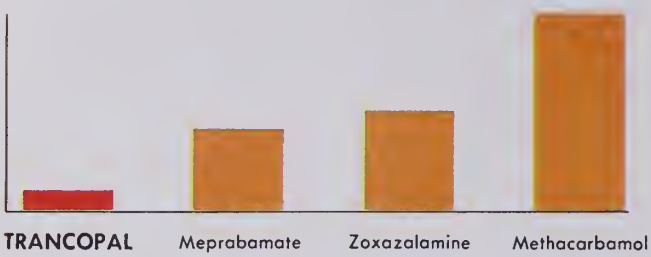
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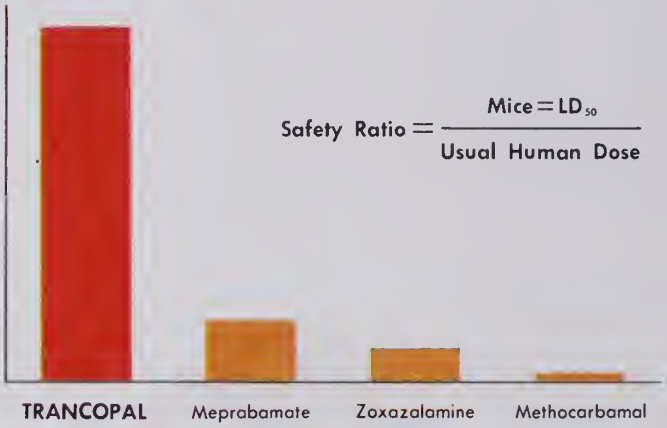
Comparison with 3 widely used central relaxants

When compared with three widely used central relaxants for activity, safety and clinical effectiveness, Trancopal offers definite desirable advantages.



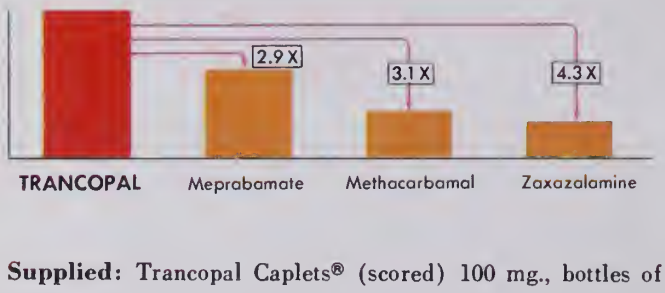
for activity

In the usual human dose, Trancopal is four to ten times as potent per milligram.



for safety

Comparative pharmacologic tests showed that Trancopal is up to thirteen times as safe or up to thirteen times less toxic. The measure of safety was the LD_{50} in mice/usual human dose.



for clinical effectiveness

A clinical comparison in low back pain, torticollis, bursitis and anxiety states showed that Trancopal is up to four times as effective. Each of the 40 patients received all four drugs in random rotation for several days. Although each of the four gave some relief, only the one providing the most effective relief was recorded.

Supplied: Trancopal Caplets® (scored) 100 mg., bottles of 100.

References: 1. Cooperative Study, Department of Medical Research, Winthrop Laboratories. · 2. Gans, S.E.: To be published. · 3. Lichtman, A.L.: Kentucky Acad. Gen. Pract. J. 4:28, Oct., 1958.

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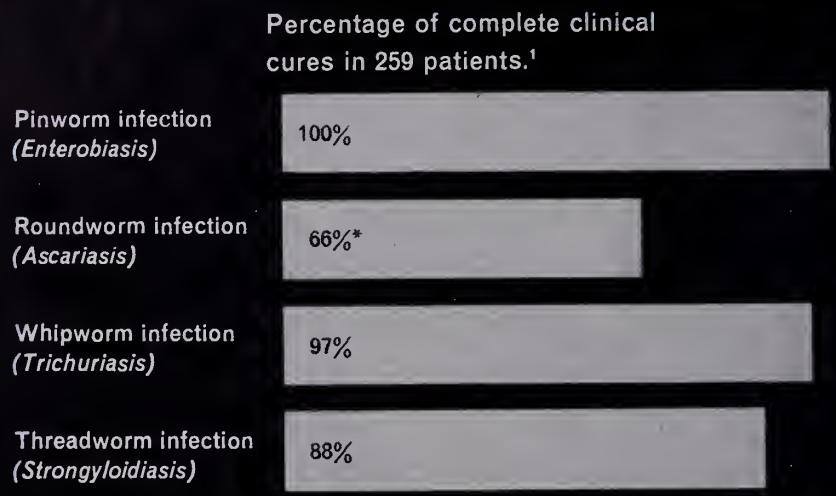
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1. Swartzwelder, J. C., et al.: J.A.M.A., 165:2063, 1957.

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Why and Which Tranquilizer?*

• In the seorch for tronquility, many new drugs have been used, some of which hove proved superior for particular emotional disturbances. When it is impossible to change the environment, these drugs must be used for long periods of time, if best results ore to be obtoined. Side effects and sensitivity must be recognized.

MALCOM E. PHELPS, M.D.†
El Reno, Oklahoma

IN this atomic age many miracle medicines have been shot into orbit, while many more failed before they reached a zenith or fizzled on the launching pad.

Tranquilizers have had their hour or moment of "newness" and have lost some of the appeal which they once possessed as "wonder drugs", since their effects have been investigated by chemists, psychiatrists, psychologists, and lately by Congress.

Tranquility

Tranquility is a state of calm, serene composure, free from disturbance and accompanied by wakefulness; it is a state to be desired in self but not so appealing in one's employees. Culturally, we hope tranquility rather than confusion will be our lot when we become aged; this same tranquility is not regularly admired in the young, rather they are taught to be anxious, competitive, and concerned. The only people who stress tranquility in children, as a virtue, are the "next door" neighbors.

This is a more anxious than a tranquil age. The tranquility of the first fifty years of life may be continuously interrupted by concern over the last fifteen. Among all living things only man is aware that he will die. This concern for the future provides a sustained market for, at least, a transitory tranquility.

Since that awesome moment when man realized the satisfactions of the day were so temporary he would have to repeat the entire procedure the following morning, he has been attempting to regain the tranquility this foresight destroyed.

Tranquilizers have been prominent in this era and we, as doctors, as well as the consuming public, have been assaulted with a barrage of claims and names, all alleging the myriad virtues each is supposed to possess. If the fantastic articles in the lay press and the artistic enterprise

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† Founding Member and Immediate Past President of the American Academy of General Practice.

of advertising departments can be believed, the masses of humanity on this globe on which we live can forever banish anxiety, by the simple act of purchasing and consuming an assortment of pills and capsules of various sizes, shapes, and hues.

The gullability of the public and the effectiveness of this selling campaign are attested to by the fact that 50 million prescriptions were filled this past year for people whose main purpose in life seems to be to forever gaze on this naughty world in which we live, through rose colored glasses. If we are to judge by the amounts of these drugs used, the lack of tranquility in these United States is reaching truly epidemic proportions.

I was highly amused when I read an article by my good friend, Dr. Jackson Smith, when he observed: "Of course, man had tranquilizers several centuries before he realized that phenothiazines had derivatives; he found that alcohol made him unconcerned, calm and serene, to the point of stupor."

It has been stated that "primitive man experimented with every root, twig, leaf, flower, and fungus in his environment" and that pharmacology preceded agriculture. It seems that by the late stone age primitive man was poisoning himself in a somewhat systematic fashion and that there were addicts even before there were farmers.

Proper Use of Tranquilizers

However, there is a very definite place in modern medicine for the proper use of tranquilizers, in selected cases. The increased discharge rate and the shortened stay of those admitted to our mental hospitals offers uncontested evidence of the effectiveness of these drugs in our armamentarium.

Actually the term "tranquilizer" is a misnomer for the drugs under discussion. These compounds are not merely sedatives, nor are they "happy pills" or "Don't-give-a-dam pills". They have physiologic and pharmacologic actions in addition to their ability to tranquilize. It is scientifically wrong to confuse them with barbiturates and other sedatives and hypnotics which may tranquilize but also produce drowsiness. It is regrettable that common usage forces the misnomer "tranquilizers" in this discussion.

From many sources have come reports of the use of these drugs in a wide variety of illnesses. An assessment of these reports is difficult because some appear to be over enthusiastic, uncritical, and even unscientific, while others consist of hypercritical reviews based on insufficient evidence. A comparison of the opinions held and the results obtained by different writers is confounded by the fact that diagnostic criteria vary, different treatment methods are used, and standards of recovery are differently assessed.

Prior to tranquilizers, drug treatment of emotional and mental aberrations was restricted to the short term use of barbiturates, bromides, and chloral hydrate. The disadvantages and limitations of these compounds were known to every doctor and they naturally began to prescribe the new tranquilizer because they represented an advance over the older drugs. Millions of people for whom there was no satisfactory medical agent for their phychic disturbances now could be treated with tranquilizers.

Therapeutic Application

The large amounts of tranquilizers consumed is at least partially explained by the wide therapeutic application and the fact that these drugs can be used for long term therapy, at times in high doses.

The commercial success of tranquilizers stimulated drug manufacturers to produce improved compounds. As a result, many tranquilizers are now marketed. They differ in chemical structure, potency, propensity to produce side effects, and their indications and contraindications. In the past five years as much clinical investigation and research has been done with tranquilizers as has been done in the last fifty years with barbiturates.

They may be divided into those effective in psychoses and neuroses and those useful in neurotic conditions only. The

former are the phenothiazine derivatives, thorazine (chlorpromazine), Sparine (promazine), Vesprin (trifluprомazine), Pacatal (mepazine), Compazine (proclorperazine), and Trilafon (perphenazine); and the rauwolfia derivatives such as Reserpine and Harmonyl (deserpidine). Those useful in neurotic conditions are Atarax (hydroxyzine), Miltown (meprobamate), benactyzine, eceyturea and Ultran (phenaglycodol). The meprobamates also act as muscle relaxants.

Some patients unresponsive to one tranquilizer may respond favorably to another. This difference in the capacity of these drugs to produce certain physiologic and pharmacologic actions makes the choice of one drug preferable to another in treating a particular patient.

TABLE 1
ANXIOUS OFFICE PATIENTS

The Anxiety May Be Expressed as:
- Behavior Problems in Children
- Sleeplessness
- Restlessness
- Aggressive Outbursts
- Feelings of Inadequacy
- Paranoid Attitude
- Depression
- Irritability
- Psychosomatic Disturbances
- Attacks of Weeping
- Feelings of Inferiority

The pharmacologic action of Reserpine affords therapeutic benefits, not merely palliative effect.

ADVANTAGES

No clouding of the psyche, permitting patient to carry on his usual activities.
No serious adverse effects on pulse or blood pressure.

DOSAGE

Schedule must be individualized; Start with:
Mild: 0.25 mg. to 0.50 mg. Serpasil orally daily
Moderate: 0.50 mg. to 1.0 mg. Serpasil orally daily

It is possible to manage many acutely disturbed psychiatric patients by the prompt administration of adequate doses of Serpasil (reserpine). (Table 2) This can be accomplished by giving 5 to 10 mg. intramuscularly. If after an hour and a half the patient is still disturbed, a second injection of 5 mg. can be administered. This has a tranquilizing effect which facilitates the management in the home or, if necessary, in the hospital.

Mildly anxious patients can be treated with oral Serpasil 0.25 to 0.5 mg daily, given in a single dose, preferably at bedtime. The moderately anxious patient should receive 0.5 to 1.0 mg.

TABLE 2
EMERGENCY CASES
ENCOUNTERED IN THE PHYSICIAN'S PRACTICE

- Panic
- Acute Confusion
- Acute Anxiety
- Psychomotor Excitement
- Delirium Tremens

Consequences:
- Rapport Maintained
- Patient Tranquilized
- Prepared for Treatment
- Family Reassured

DOSAGE

5 mg. Serpasil intramuscularly.
Wait 90 minutes before second dose of 5 mg.

ADVANTAGES

Makes possible treatment in general hospital or nursing home.
Shortens period of hospitalization.
Replaces or reduces shock therapy.
The 5 mg. ampul in the doctor's bag is the difference between medical and police control.

Serpasil is a slow acting drug. Therefore the dose should not be increased too rapidly. Therapeutic persistence is imperative. Many failures can be attributed to either inadequate dosage or the premature termination of treatment.

No one knows with any degree of certainty whether the tranquilizers cure a neurosis or psychosis or merely suppress some of their disabling symptoms but they have helped many patients to remain at home, to work, and to be reasonably comfortable in spite of the persistence of the basic disorder. These are not small accomplishments. To withhold these drugs solely because they are not curative is as unreasonable as it would be to discard insulin, digitalis, or anticonvulsants.

Dosage and Prolonged Administration

There has been much critical discussion about dosage and prolonged administration of tranquilizers. There are patients who require much more of a drug than others just as some require more ether

than others for an anesthetic. A common error is to give too little rather than too much or to terminate treatment prematurely. There is an art of tranquilizer therapy, as in anesthesia, in which some physicians are more skilled than others. This accounts for the divergent results and complications reported by different therapists.

It is unrealistic optimism to expect to reverse chronic ailments by a short course of tranquilizer therapy, especially where the environment or situation is not changed. Adequate doses must be given for prolonged periods. Some physicians' attitude regarding lengthy drug therapy is paradoxical. They have no hesitancy in administering barbiturates, even in large doses, for a lifetime to an epileptic but are loathe to give their nervous patients tranquilizers for more than a few weeks. Others refrain from prescribing large doses of a tranquilizer for fear of untoward reactions. The latter is untenable.

Risk of Habituation

The risk of addiction or habituation from prolonged use of tranquilizers is practically nonexistent. It is a common experience of doctors that neurotics frequently take less rather than more of the prescribed dose of any drug. This has been especially true for tranquilizers. Patients do not develop a tolerance for a tranquilizer with long-term use, and therefore, increasing doses of the drug are not necessary. Instead as they improve with continued use of a tranquilizer the dose is decreased rather than increased. This is in contrast to the predecessors of tranquilizers and another reason why prolonged use of these drugs is not dangerous. As occasional abuse of a tranquilizer is more readily explained by the psychopathology of the abuser than by any addictive properties of the drug.

At not one of the National or International meetings at which these drugs were discussed by experts from the world over has a single documented case of addiction to a tranquilizer been reported. Those people who take tranquilizers just for kicks are the very ones who could become habituated to barbiturates or addicted to narcotics.

Some objectors to tranquilizer therapy, especially prolonged use of these drugs, are more concerned with the possible deleterious effects of suppressing anxiety than with any possible physical harm that may occur from their use. The fear that the widespread use of tranquilizers would produce a nonproductive society has not materialized. It is a truism that a certain amount of tension is a salutary force needed for fruitful living. The most sanguine physician would not prescribe a tranquilizer for what might be termed normal anxiety. Some of those who condemn tranquilizer therapy do so for philosophic rather than for scientific reasons.

Adverse Reactions

Much publicity has been given to adverse reactions to tranquilizers. This has distorted the facts. Properly administered, these drugs are safe. Distinction must be made between side effects and allergic reactions to a drug. The former are normal. They are due to the physiologic and pharmacologic action of the medicine. Depending on the dose taken they occur in varying degrees of intensity. They may be troublesome but are seldom serious. They usually remit spontaneously with continued treatment or they may be modified by a temporary reduction of the dose or the addition of other drugs to the patient's medication. Side effects are dependent on dosage. (Table 3)

Calling attention to the side effects of a drug is necessary but they can be overemphasized making the drug appear very dangerous. The litany of all the side effects an individual tranquilizer causes can be very misleading unless it is pointed out that the list is a complilation of all side reactions noted in a large group of patients. Some people rarely have a side effect from a drug; others may have several, but no single patient has all the side reactions a drug is capable of producing. Long lists of side effects are also deceptive unless the frequency of occurrence of each side reaction is stated since some are rela-

TABLE 3
SIDE EFFECTS AND THEIR MANAGEMENT

Give Minimal Effective Dose	
Lethargy	Ritalin
Nasal Stuffiness	Antihistamines
Jitters	Reduce Dosage
Nausea	Antrenyl

CONCLUSIONS

1. It is possible to offer patients treatments on an ambulatory basis without losing time from work.
2. If hospitalization is indicated, patient may be treated adequately in a general hospital or nursing home.
3. Replaces or reduces electroconvulsive therapy.
4. These factors make Reserpine therapy economical, a consideration of prime importance to the private patient.

tively common while others may occur once in a million patients.

Any discussion of side effects is beset with many pitfalls unless one keeps in mind that a drug, to be effective, must have side effects. Most side effects occur in the early stages of tranquilizer therapy. No physical harm has been reported from prolonged moderate use of phenothiazine or rauwolfia derivatives. Recently completed laboratory tests consisting of urinalysis, blood chemistries, liver function studies, and hematologic studies on 50 patients taking Thorazine (chlorpromazine) from two to four years, 50 patients receiving Reserpine from two to four years, and 50 patients receiving Trilafon (perphenazine) from one to two years, did not disclose any major pathological findings. Likewise, as far as I have been able to find no permanent neurologic effects from the use of tranquilizers have been reported.

The sedative effect of tranquilizers is quite variable and related to the chemical structure and potency of the compound. Depending on the individual susceptibility of the person, the nature of a specific drug, and the dose, this sedative action may assume varying degrees of severity. Tranquilizers do not continue to produce drowsiness, somnolence or sleep in those who take therapeutic doses for more than two weeks, even if the dosage is increased. Consequently, several thousand patients have taken large daily doses of tranquilizers and have been able to drive, operate machinery, or to work in industry under all kinds of conditions.

Allergic or sensitivity reactions occur as often in patients receiving small doses as they do in those receiving large doses of the drug.

Idiosyncrasies do not depend on dosage. Side effects do. Since idiosyncrasies occur early in treatment the patient receiving any potent drug should be carefully observed and blood studies repeated during the first four to six weeks to guard against untoward reactions. There is usually little to fear after this period.

Allergic responses to tranquilizers are not normally expected as are side effects. They occur in less than 1 per cent of the patients receiving the drug. In most cases they are attributable to individual hypersensitivity to the drug although the mechanisms that underlie this are not fully understood.

Phenothiazine derivatives (Table 4) in contrast to rauwolfia derivatives have been responsible for the great majority of the dermatologic and systemic manifestations of drug hypersenstitivity. Patients with skin reactions to phenothiazine derivatives usually are not ill. It is seldom necessary to discontinue the drug because

TABLE 4
PHENOTHIAZINE DERIVATIVES

More Potent (Smaller dosage required)	
Trilafon	Perphenazine
Dartal	Thiopropazate
Compazine	Prochlorperazine
MEDIUM POTENCY	
Vesprin	Trifluprom azine
Thorazine	Chlorpromazine
Sparine	Promazine
Least Potent (Larger dose required)	
Pacatal	Mepazine

DEGREE OF SEDATION

The degree of sedation can only be evaluated subjectively by the patient. Patients report the highest degree of sedation with Thorazine and Vesprin followed by Dartal, Compazine, Pacatal, Sparine and Trilafon in that order. Thus the degree of sedative effects of the phenothiazine compounds do not appear to be related to their potency.

of skin reaction. However, if the drug is withdrawn it may be resumed safely after the dermatitis clears.

Further evidence that thorazine (chlorpromazine) for example, is not toxic to the liver has been provided by a recently completed survey of 50 patients who have taken this drug from two to four years in total doses from 50,000 to over 1,000,000 mg. Liver function studies in these patients did not disclose any significant change from their pretreatment liver function tests.

The most serious blood dyscrasia resulting from phenothiazine therapy is agranulocytosis. This expression of drug idiosyncrasy has been rare. Less than 100 cases have been reported in the millions of people who have taken phenothiazine drugs all over the world. Even this low incidence is a reflection of the large number of patients who are being given these drugs rather than a sign of serious toxicity.

Serum sickness and anaphylactic shock are rare expressions of drug sensitivity which have appeared in patients receiving meprobamate. These same reactions have been caused by the Asiatic flu vaccine, penicillin, and other antibiotics. In fact, such idiosyncratic reactions have resulted from eating certain foods which most people consume with immunity.

It is widely held that depressions occur frequently in patients treated with tranquilizing drugs, especially the rauwolfia derivatives. This has been challenged by the findings of a recent follow-up study of 70 patients originally diagnosed drug-induced depression. This study emphasized that a careful distinction must be made between excessive tranquilization and true depression. The former resembles depression. It is due to too large a dose of the tranquilizer and remits when the dosage is reduced or a stimulant is added to the medication. This survey disclosed that the majority of those patients who were truly depressed were that way before the drug was started and what the drug did was make the depression more apparent. On the basis of this and other clinical facts established by this follow-up study it has been concluded that tranquilizers do not, per se, cause depression. Rather, they can cause excessive tranquilization or unmask an underlying, pre-existing depression.

Time and the number of patients receiving the drug are the most important factors in revealing side effects to a new compound. For this reason less is known about the side effects of the more recent tranquilizers. What we know indicates that these drugs are safe and seldom produce a serious toxic reaction.

Conclusions

In the five years since tranquilizers have been available a considerable body of knowledge about them has been accumulated. That these drugs constitute a valuable advance in the management of mental and emotional disorders is evident. They have been productive of comfort to many sufferers who previously had no ready source of relief. Their impact on the hospitalized psychotic, on the admission and discharge rate in psychiatric hospitals everywhere is well known. Since tranquilizers have been used in private practice the number of patients committed to state and private mental hospitals has been reduced drastically while the number admitted to general hospitals without a special psychiatric unit has increased markedly. The average duration of hospitalization has been cut in half. The number of patients requiring electroshock therapy has been reduced 75 per cent. These drugs have made it possible for many patients to work or attend school who formerly would not have been able to do so. That tranquilizers have radically changed the course and prognosis of many psychiatric disorders is now an established medical fact.

There has been considerable criticism of tranquilizers and their producers—some justified, some unwarranted. Honest mistakes have been made with them. I should like to emphasize: (1) The tran-

quilizers are very important new medical tools. (2) Contrary to reports in some lay publications they are not happy pills capable of placing anyone in a state of Nirvana with permanent peace of mind. (3) They must be used with the care and discretion that only a good physician can provide. (4) While a few so-called tranquilizers have been advertised unwisely the majority of manufacturers have exercised admirable caution and restraint in their promotion. (5) The phenothiazines are beneficial in psychoses and neurosis and may be used in neurotic conditions. But the meprobamates are not suited to the treatment of psychosis and neurosis.

Health of the City

Since the date of our last number the City has continued in the enjoyment of uninterrupted health. The diseases of the warm season disappeared with it, and though now in mid-winter, there is no disease prevailing worthy of notice. * * * If New Orleans is to continue as healthy as it has been throughout the past year, at least one half of the physicians ought to seek places where they can do better. * * * In the hospitals there have been a few cases of Typhoid Fever in persons recently arrived by sea, and from the country; but so far as we know none have originated in the City.

A plan has been submitted to the Council of the 2nd Municipality by Mr. Samuel J. Peters, for supplying this Municipality with water for the purpose of washing the streets, extinguishing fires, etc. which we think of great importance. The necessity of having a sufficiency of water at command, promptly to extinguish fire, is at once apparent to every owner of property and needs no appeal from us; but the cleansing of the streets by which the city will be rendered more comfortable and salubrious, although certainly not of minor importance, is a public duty, and therefore liable to be neglected. * * * The filth and offensiveness of our streets have become a by-word and a reproach. * * * We could not expect the purlieus of a crowded city to be healthy as the open air of the country; but if our streets were kept perfectly clean, New Orleans might possibly become almost as healthy as the residences along the coast, which are probably not excelled in this respect by any in the world.

New Orleans M. J. 1:372 (January 1) 1845.

The Nature of Achalasia*

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ACHALASIA has been a fascinating topic for physicians for nearly 300 years. Dilatation of the esophagus without obstruction was described by Hannay [1] in 1833. This was not the first case described, as there is a case of a man having the clinical features of achalasia who was reported on by Thomas Willis in 1672. Willis reported that because his patient was losing weight due to esophageal obstruction, he prepared an instrument like a rod and made of whalebone, with a little round button of sponge fixed to the top. During the succeeding 15 years, the patient practiced blind bouginage of the stomach with clinical improvement. Willis concluded in this case: "the mouth of the stomach being always closed, either by a tumor or a palsy, nothing could be admitted into the ventricle unless it were violently opened." [2] Mikulicz, in 1882, suggested that the disorder was the result of spasm of the cardia. The disorder has been most commonly referred to as cardiospasm.

There is little evidence to support the concept that the symptoms are due to spasm of the cardia. The obstruction appears to be the result of failure of the cardia to relax. Hurst adduced this from the lack of resistance to the passage of mercury bougies through the cardia. The more appropriate term, achalasia, or failure to relax, was suggested by Sir Cooper Perry and used by Hurst in relation to this disorder in 1915. Since that time, a variety of names have been applied to functional obstruction of the lower end of the esophagus and various explanations have been offered for this kind of dysphagia. Cardiospasm and achalasia are the names most frequently used, but others employed include mega-esophagus, esophageal dystonia, and aperistalsis of the esophagus.

The early clinicians felt that this condition was the result of spasm of the cardio-esophageal junction, hence the name—cardiospasm. Although this is still the most commonly used name, there has been a recent trend toward terming the condition achalasia, which suggests that the disorder is the result of failure of relaxation of the cardia from its normal state of contraction.

Etiology

The etiology of achalasia remains an enigma. Numerous causes have been suggested, most of them without sound basis. Some of these suggestions, now largely discarded, include the pinchcock action of the diaphragm,[3] external pressure on the esophagogastric junction by the liver tunnel,[4] primary dilatation of the esophageal walls,[5] and overactive sympathetic stimulation of the cardiac sphincter.[6]

The consensus of opinion now tends toward the concept that cardiospasm, or achalasia, is not a localized process due only to spasm of the cardia, but a disorder which involves most, if not all, of the esophagus. Hurst's concept that the condition was one of failure of relaxation of the cardia suggested that there might

* Presented at the Twenty-second Annual Meeting of The New Orleans Graduate Medical Assembly in New Orleans, March 3, 1959.

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be associated neurological changes. In 1927, Rake [7] demonstrated degeneration of the ganglion cells in the plexus of Auerbach in two patients with achalasia. These observations have been confirmed by other investigators. The study of patients at different stages of the disease suggests that the earlier changes may be those of a subacute inflammation which is subsequently followed by destruction of the ganglion cells and replacement of the cells by areas of fibrosis. The changes in the myenteric plexus in achalasia are similar to those observed in aganglionic megacolon, and the similarity between the two disorders has been noted.

Although the morphologic findings in achalasia are well established, the cause of the degeneration of the ganglion cells in the myenteric plexus is unknown. In the earlier cases, inflammatory changes surround the ganglion cells, whereas in the latter cases, fibrosis is evident. It is possible that the degenerative changes might be due, in part, to stretching of the esophagus. Woller [8] takes the position that the degenerative changes in the myenteric plexus are the result of dilatation of the esophagus, rather than the primary cause of the disorder. Etzel [9] suggests that the degenerative changes might be secondary to a Vitamin B_1 deficiency because of the similarity to changes in the ganglion cells noted in beriberi. This concept has not found widespread support as there seems to be no correlation between the incidence of achalasia and that of Vitamin B_1 deficiency. Brazilian students of this condition have been impressed by the occurrence of achalasia in areas having a high incidence of Chagas' disease and have suggested there might be an etiological relationship; but the fact that achalasia is equally common in countries where Chagas' disease is rare, or unknown, tends to discredit this concept. Further study is necessary to determine the status of Auerbach's plexus in normal individuals, and in patients with functional dysphagia and achalasia.

Achalasia has also been considered to be a psychosomatic disorder. The swallowing time of normal persons and patients with esophageal symptoms may be lengthened by subjecting them to psychic stress. Studies of the psychosomatic aspects of achalasia demonstrated that neurotic traits were frequently observed during childhood of these patients, and in many cases persisted into adult life. Patients with achalasia have been characterized as being perfectionistic, neat, orderly, and meticulous; they have also been noted to be submissive, sensitive, and rather easily offended. McMahon [10] reported that cardiospasm is a disease of the frustrated and is not seen in happy, contented or well-adjusted individuals. However, even though certain psychic abnormalities may be observed fairly frequently in patients with achalasia, this does not establish the fact that the disease is psychogenic in etiology. In fact, most investigators believe the psychic factors are of secondary importance in this condition.

The gross pathological changes vary considerably depending on the duration of the disease. There is probably a considerable latent period before symptoms develop, and the pathologic changes appear to be of a long-standing duration even in those patients whose clinical history is relatively short. The caliber of the esophagus may vary from almost normal to the dilated, tortuous esophagus seen in the late stage of the disease. Initially, the esophagus is of normal caliber but because of the difficulty in swallowing, the esophagus hypertrophies and dilates. Secondary changes involving the esophagus are frequent as a result of the long-standing dilatation. These consist of chronic inflammatory changes involving primarily the mucosa. The esophagitis is the result of the irritative action of the stagnated material, which affects the relatively sensitive esophageal mucosa.

Pathophysiology

The clinical features, the course of the disease, and the treatment have beeen described in numerous publications during the intervening years. Only recently has much attention been paid to the pathophysiology of achalasia. The increased interest in achalasia, as well as of other

nonmalignant disorders of the esophagus, coincides with the development of equipment capable of accurately measuring and recording the intraluminal pressures of the gastrointestinal tract.

We have developed a new method for studying esophageal motility, based on the principle of simultaneous filming of intraluminal pressure tracings and amplified fluoroscopic images.[11] This technic permits correlation of pressure changes and radiologic phenomena, thus facilitating the study of the nature and function of the various pressure waves. The studies of esophageal motility on patients with achalasia reveal a generalized disorder of motility which involves most of the esophagus.[12-18]

The deglutition complex in patients with achalasia differs from the deglutition complex in normal subjects in several respects. The peak of the swallow complex occurs simultaneously at the three levels studied in the achalasia group indicating that the waves are not propulsive. The mean duration of the waves is prolonged at all three levels and the waves do not differ significantly from each other. Lastly, the amplitude of the complexes from the patients with achalasia is much less than that observed in normal subjects (Figure 1).

Many of the features of the pathologic physiology of achalasia can be explained. The motor stimuli to the esophagus reach it by way of the vagi, which contain the preganglionic parasympathetic nerve fibers. These fibers normally make synaptic connections with the postganglionic neurones within the plexus of Auerbach. However, when degeneration of the postganglionic neurons occurs, as in achalasia, the motor pathway is interrupted accounting for the disorganized motor activity observed in this disorder. The hypersensitivity to Mecholyl and Urocholine is consistent with Cannon's law of denervation. This further supports the concept that achalasia is due to a denervation of the intrinsic nerve plexi. The studies of Lerche [19] and Ingelfinger [20] indicate that the distal portion of the esophagus, the

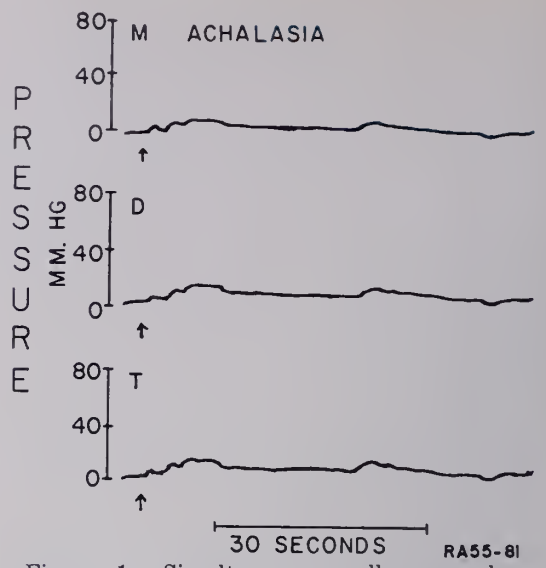


Figure 1.—Simultaneous swallow complexes from the middle (M), distal (D), and terminal (T) segments of the esophagus from a 47-year old man with a 20 year history of dysphagia. Onset of deglutition complex indicated by the arrow. The X-ray of this patient is shown in Figure 2.

vestibule, functions as a distinct and separate motor unit for esophageal evacuation. Code [14] has shown that in normal subjects there is relaxation of the vestibular area early during the swallowing act. This relaxation and lowering of pressure occurs even before the primary peristaltic wave reaches this area. This response is not observed in patients with achalasia.

Kramer and Hollander [21] have studied the mechanism of pain in patients with esophageal disease. They found that by balloon distention of the esophagus most patients developed pain which, in most instances, was indistinguishable from their spontaneous pain. Experimental esophageal pain and clinical cardiac pain could not be distinguished from one another. The pain of patients with achalasia is the result of distention of the esophagus.

Clinical Features

The incidence of achalasia is not well known. The disorder is not rare and sizable groups of patients have been reported from various medical centers. There may be some geographic features of the disorder; it appears to be commoner in some areas, notably Brazil, than in the United

States. Almost any age may be affected, although it is most commonly seen in the fourth to sixth decades. The age of onset in our patients ranged from 14 to 78 years. Nonorganic obstructions of the esophagus presumed to be achalasia have been reported in newborn infants.[22] Inasmuch as few of these patients have been carefully studied, it is not certain that these represent the same disorder seen in adults. Achalasia occurs in both sexes with equal frequency.

The onset of symptoms is usually insidious. Dysphagia is the most common presenting complaint; initially, it is intermittent, but as the disease progresses it tends to become more persistent. The dysphagia is usually worse on swallowing solids than liquids, although cold liquids usually increase dysphagia. Many patients soon find out that they can facilitate swallowing by drinking water or large quantities of other liquids with their meals, thereby creating sufficient hydrostatic pressure to initiate emptying of the esophagus. The dysphagia is usually worse if the patient is nervous or under stress. Symptoms are more likely to occur if the patient has to eat in public.

Another frequent complaint is substernal pain. Pain is more common in persons with relatively undistended esophagi who are observed on fluoroscopy to have spasmodic contractions of the esophagus. In other patients, the pain has no relation to the ingestion of food and is indistinguishable from anginal pain. Weight loss is common and may be sizable in patients who have long-standing, relatively complete obstruction. Regurgitation of retained esophageal contents is also frequent. Regurgitation is more likely to occur when the patient assumes the horizontal position and may result in chronic pulmonary disease due to aspiration pneumonia.

Diagnosis

The diagnosis of achalasia is usually relatively easily established. The diagnosis, which can frequently be suspected when the patient presents with intermittent dysphagia and substernal pain, is established by the roentgenologist. The obstruction at the cardio-esophageal junction may be complete or incomplete. Early in the disorder, there may be intermittent passage of small amounts of the opaque meal into the stomach, although on occasion the esophagus may retain the meal for hours, or even for days. In the early stage, the lower esophagus is spindle-shaped and the meal passes through a narrow, ribbon-like stream into the stomach. Later, there is obstruction to the outlet of the esophagus along with marked dilatation and little or no barium may enter the stomach unless the accumulated food and fluids have been evacuated, the ingested barium suspension swirls through the column of fluid, pooling at the lowermost end of the esophagus. Here, the lumen tapers smoothly and concentrically to a filiform opening at the diaphragmatic level (Figure 2).

The greatest distention of the esophagus occurs in its lower half. The capacity of the esophagus varies and in advanced



Figure 2.—X-ray from a 47-year old man with a long history of achalasia. The esophagus which is dilated and tortuous above tapers to a filiform opening into the stomach.

cases more than 500 cc. of barium may be required to fill it. The esophagus is best seen in the oblique or lateral position. Characteristic of achalasia is the terminal end of the esophagus, which is narrowed and terminates in a round, smooth, cone-shaped end. It may taper gradually or a filiform process extending into the stomach may be observed. Occasionally, the diagnosis may be established on a chest film because of the widening of the mediastinum.

Endoscopy is of value in excluding other causes of obstruction of the esophagogastric junction. Careful preparation is necessary for several days prior to the test by withholding liquids for twelve hours and limiting the diet to clear liquids. Care must be taken during the course of the examination so that the patient does not aspirate the material from the esophagus. The esophagus is often dilated, and because of its tortuosity it may be difficult to follow the lumen.

Administration of parasympathomimetic drugs may be of aid in differential diagnosis in conditions simulating achalasia. The esophagus is extremely sensitive to parasympathomimetic drugs because of its denervated status. Intramuscular administration of 6 to 10 mg. of Mecholyl produces a violent tonic contraction of the lower half of the esophagus. Similar changes are noted following administration of Urecholine and concurrent intraluminal pressure studies demonstrated a rise in the baseline pressure exceeding 100 mg. of Hg. This response is not seen in the other esophageal disorders.

Treatment

The elucidation of the mechanisms underlying the motor phenomenon of achalasia has therapeutic indications. The anticholinergic drugs are of little value and, occasionally, may make the condition worse. The parasympathomimetic drugs cause contraction of the esophagus which results in the patient's having pain and emesis, rather than in the emptying of the esophagus into the stomach. The drugs which have direct muscle-relaxing effect, such as the nitrites, have been employed but their effect is transient and they are of little real value. Limited success has also been reported with the use of local anesthetics prior to meals.

The mainstay of the medical treatment of achalasia is the properly executed dilatation of the vestibule. Satisfactory results are obtained in about 80 per cent of patients. Both hydrostatic and pneumostatic dilators have been employed. We use the Mosher dilator, which gives satisfactory results and is simple to operate. The bag on the dilator may be distended from three to fifteen pounds of pressure. This procedure, which forcibly dilates the vestibule, decreases the resistance in this area so that the patient can swallow by means of the pressure demonstrated in the pharynx aided by gravity, and it does not alter the intrinsic motor abnormalities of achalasia. Some reflux from the stomach into the esophagus may follow, but this is not so common after this procedure as it is following surgical procedures on the esophagogastric junction.

About 20 per cent of patients do not respond satisfactorily to forcible dilatation of the vestibule. Surgical treatment is required for this group. A variety of surgical procedures have been employed in the past, most with rather indifferent results. The major problem is that of esophagitis following resection of the sphincteric mechanism between the stomach and the esophagus. The patients may experience relief of dysphagia but their ultimate status may be worse than prior to surgery, if they develop esophagitis with stricture. Most authorities now agree that the most satisfactory surgical results have been obtained following the Heller, or modified Heller, procedure. Surgery can relieve only the obstruction resulting from failure of relaxation of the lower esophageal sphincter. No known procedure can restore normal motility. The esophagogastric mechanism that prevents reflux must be preserved while a part, or all, of the mechanism that blocks passage from the esophagus to the stomach must be eliminated. The vagus nerves must be identified and preserved, for if they are injured

pyloric obstruction may occur and reflux may be aggravated. Postoperatively, in the modified Heller procedure, or esophagomyotomy, the suprahiatal portion of this nonrelaxing zone of increased pressure was completely abolished, but the subhiatal portion was partially retained. This remnant prevents esophageal reflux but the residual pressure is low enough to be overcome by the pressure of deglutition. Regurgitation and esophagitis are prevented by not cutting the muscle responsible for the subhiatal zone of increased pressure.

Surgery of any kind, however, should rarely be necessary in cardiospasm because a properly executed, forceful dilatation of the narrowed segment is remarkably successful. The dilating instrument, a bag inflated under air or water pressure, must of course be positioned accurately, and this means positioning under fluoroscopic control, not merely inserting the instrument for a certain distance beyond the incisor teeth.

Summary and Conclusions

1. The symptoms of achalasia include dysphagia, substernal pain, regurgitation, and weight loss.

2. Degeneration of the ganglion cells of Auerbach's plexus has been demonstrated in patients with achalasia. The cause of this is not known.

3. Studies of the esophageal motility in patients with achalasia reveal a generalized disorder of motility which involves most of the esophagus.

4. The gastro-esophageal vestibule does not relax due to absence of normal myenteric conduction of the peristaltic wave.

5. The most important phase of treatment consists in the adequate dilatation of the gastroesophageal vestibule.

6. The modified Heller procedure, esophagomyotomy, offers the best result if and when surgery is justified.

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Diphtheria in Louisiana--1958

• The authors report an alarming incidence of diphtheria in Louisiana during 1958.

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FIGURES released by the National Office of Vital Statistics for the year 1958 show that the total cases of diphtheria that occurred in the United States during the year totaled 896. This was a decrease of 23.9 per cent from a total of 1,178 cases in 1957, and, for the first time since reports of communicable diseases became available for the country as a whole, total diphtheria cases ran below 1,000. In marked contrast is Louisiana's record for 1958.

Incidence

A total of 89 † cases were reported within the state last year. This is a four-fold increase over the 22 cases reported in 1957 and far in excess of the average of the three preceding years—the mean number of cases for the period 1955 through 1957, inclusive, is 36.3. Eleven parishes (see footnote †) reported one or more cases of diphtheria during the year. Table 1 shows the cases reported by parish and the incidence in the various age groups.

It should be noted that a total of 51 cases, or 57.3 per cent, occurred in the 0-5 year age group and 26 cases, or 29.2 per cent, in the 6-10 year age group. Three deaths were reported from diphtheria, one each in the parishes of Washington, Avoyelles and St. Tammany.

Table 2 shows the number of diphtheria cases according to month of onset, for the four years 1955 through 1958:

It will be noted that as far as 1958 is concerned, only 9 cases were reported through August. The real outbreak began in September, in which 33 cases were reported and this increased incidence continued through the rest of the year.

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† After completing the tabulations contained in this report, 3 additional diphtheria cases were reported belatedly, but with onset occurring in December of 1958. Two of these cases were reported from Richland Parish and the other from Ouachita Parish, so that actually the total number of cases reported was 92, although the tabulations above all indicate a total of 89. Moreover, laboratory confirmation of these three cases has not been received at the present writing.

TABLE 1
INCIDENCE BY PARISH AND AGE GROUP

Parish	0-5 Yrs.	6-10 Yrs.	11-15 Yrs.	Over 15 Yrs.	Total
Assumption	W-1				1
Avoyelles		W-1	W-1		2
Calcasieu				C-1	1
Jefferson	C-2		C-2		4
Orleans	C-37	C-17 W-1	C-2	C-4	61
St. Tammany	W-3	W-4	W-1		8
Tensas	C-1				1
Terrebonne	W-1 C-3	C-2	C-1		7
Washington	W-3	W-1			4
TOTAL	W-8 C-43	W-7 C-19	W-2 C-5	W-.. C-5	W-17 C-72
	51	26	7	5	89
	57.3%	29.2%	7.9%	5.6%	

TABLE 2
MONTH OF ONSET

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1958	—	1	3	1	—	—	—	4	33	12	10	25	89
1957	—	—	2	3	—	—	1	1	2	5	7	1	22
1956	5	—	6	3	4	1	3	1	2	2	9	2	38
1955	6	2	5	2	—	—	2	6	1	2	18	5	49

TABLE 3

Age Group	Fully Vaccinated	Lapsed	Inadequate	None	Unknown	Total
0- 5 yrs.	12	7	3	18	4	44
6-10 yrs.	2	8	1	7	1	19
11-15 yrs.	2	2	1	3	—	8
Over 15 yrs.	—	1	—	4	—	5
	16	18	5	32	5	76
Still under investigation						13
					TOTAL	89

Immunization

An effort was made to evaluate the immune status of each case of diphtheria. It should be pointed out that it was very difficult to come to any definite conclusion in many of these cases. In most instances, no record could be referred to and the only source of information concerning the vaccination status of the child was the history given by the mother. In many cases the mother could not remember whether or not the child ever was vaccinated. Quite frequently the mother would state that she knew the baby had some shots some time ago, but she was not sure what they were. From what information was obtainable, the cases were divided into the following categories: (1) Fully vaccinated—having received the full primary series of three injections and a booster within the past three years; (2) Lapsed—having received the primary immunization but no booster within the past three years; (3) Inadequate — having received one or two initial shots but not the complete primary immunization.

Table 3 gives the immunization status by age groups.

Immunization Procedure

The immunization procedure, as recommended by the Louisiana State Board of Health, is to begin immunization at one or two months of age. Three intramuscular injections of 0.5 cc. each of alum precipitated combined diphtheria-tetanus toxoids with pertussis vaccine should be given four to six weeks apart, followed by a similar injection six to twelve months later. A booster injection of 0.5 cc. of the same material should be given before the child starts school. The school-age child's immunity should be kept up by injections of 0.5 cc. alum precipitated combined diphtheria-tetanus toxoids, administered every three or four years until the age of 12 years.

Children over the age of 12 years and adults should not be immunized with this material without first being given a Schick test, to determine whether or not there is any need for further immunization. Even then, if the Schick test is positive, a sensitivity test should be applied intradermally before administering the vaccine. Because it has not been deemed to be good public health practice, the Schick and sensitivity tests are not given in the local health units. Consequently, children over the age of 12 years and adults are referred to their private physicians for immunization against diphtheria.

However, a new type of diphtheria-tetanus toxoids combined, ultrafined—especially for adult use (containing approximately one-tenth of the amount of diphtheria antigen as in the regular vaccine) is now available. The use of this new adult type vaccine may obviate the necessity for the Schick and sensitivity tests when immunizing older children and adults.

Long-Term Treatment of Hypertension with Rauwolfia Serpentina

• The author reports satisfactory results with long-term use of rauwolfia in the treatment of hypertension.

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AMONG reports which have appeared in the medical literature on the use of rauwolfia in the treatment of hypertension [1-6] are several which describe long-term therapy with this substance.[1-2] Prolonged administration of a medicament with safety is, of course, of special advantage in treating a disease like hypertension. The present paper offers additional evidence that rauwolfia remains safe and effective during prolonged administration to hypertensive subjects.

Over the past four years, the writer has employed a preparation of whole root Rauwolfia serpentina (Raudixin) as a hypotensive agent, sometimes as the sole hypotensive agent and at other times in combination with other blood pressure lowering drugs. Some patients have been followed continuously for as long as three years. In general, Raudixin has proved to be a highly satisfactory agent for prolonged therapy in hypertension without serious toxic effects. The present report briefly outlines that experience with Raudixin.

Methods and Materials

The Patients

A total of 38 hypertensive patients comprise this series. All were adult and all were ambulatory. Twenty-eight were female and 10 were male. For purposes of study, the patients were divided into three groups according to the severity of the hypertension present. (See Table 1). One patient had a history of thyroidectomy. Diabetes was also present in 2 other patients and chronic bronchitis in still another. Heart disease was a complicating factor in 2 additional patients.

Raudixin was administered as the sole hypotensive drug to 24 of the 38 patients; 14 received, in addition, a preparation of pentolinium (Ansolysen). (See Table 1) Raudixin was administered in doses of 50 or 100 milligrams for total daily doses ranging from 100 to 400 milligrams. Therapy was continued for the periods given in Table 2.

TABLE 2
DURATION OF THERAPY

Period of Treatment (Months)	Number of Patients
Up to 12	8
12 to 24	22
25 to 36	8

Results

The effects observed following the administration of Raudixin, either alone or in combination with ansolysen, are sum-

TABLE 1
THE PATIENTS

Groups *	No. of Patients		Treated With	
	Male	Female	Raudixin Alone	Raudixin & Ansolysen
I	4	3	5	2
II	23	5	18	10
III	1	2	1	2
TOTAL	28	10	24	14

* Group I Patients with diastolic pressures of at least 90 mm. Hg but less than 100 mm. Hg.
Group II Patients with diastolic pressures of 100 to 119 mm. Hg.
Group III Patients with diastolic pressures of 120 mm. Hg. or higher.

TABLE 3
SUMMARY OF RESULTS WITH RAUDIXIN AS SOLE HYPOTENSIVE AGENT

Group *	No. of Patients	Average Mean Pretreatment B.P. (mm. Hg) †	Average Mean Post-treatment B.P. (mm. Hg) †	Average Mean fall in B.P. (mm. Hg) ‡	No. of Patients receiving normal B.P. levels §
I	5	141	112	29	5
II	18	148	125	23	8
III	1	180	150	30	0
		SUMMARY OF RESULTS WITH RAUDIXIN PLUS ANSOLYSEN			
I	2	141	126	15	0
II	10	155	137	18	2
III	2	171	138	33	0

* See footnote Table 1
† Average mean B.P. $\frac{\text{(total systolic + total diastolic)}}{\text{2 (No. of patients)}}$
‡ Difference between average mean pretreatment B.P. and average mean post treatment B.P.
§ (A mean arterial pressure of 120 mm. Hg or less)

marized in Table 3. In 13 of the 24 patients who were given Raudixin as the sole hypotensive drug, blood pressure levels declined to normal (a mean arterial pressure of 120 mm. Hg. or less). Eighteen of the 24 patients experienced a fall in diastolic pressure of more than 10 mm. Hg. (See Table 4). In one patient there was a rise in the mean arterial pressure of 9 mm. Hg. Though the patient's general condition was good, Raudixin was discontinued and Ansolysen prescribed.

Blood pressure levels declined to normal levels in 2 of the 14 patients given both Raudixin and Ansolysen (Table 5), while in 8 of the 14 there was a fall in diastolic pressure of more than 10 mm. Hg. In 1 patient there was a rise in the mean arterial pressure of 28 mm. Hg. (Table 4) Severe emotional instability was present in this patient which may have contributed to the difficulty encountered.

Improvement in such symptoms as headache, chest pain, dizziness and shortness of breath was seen in the majority of treated patients. One patient with excessive edema of feet and congestion of both lungs improved with treatment for a period of two months, then had recurrence of cardiac failure and expired. This was due to the patient's failure to remain on digitalis and diuretics.

TABLE 4
DECLINE IN ARTERIAL PRESSURE WITH RAUDIXIN AS SOLE HYPOTENSIVE AGENT

Decline in Systolic Pressure	No. of Patients from Groups †			Decline in Diastolic Pressure	No. of Patients from Groups			Mean Fall *	No. of Patients from Groups		
Mm. Hg	I	II	III	Mm. Hg	I	II	III	Mm. Hg	I	II	III
0	0	1‡	0	0	0	2§	0	0	0	1**	0
1-10	0	1	0	1-10	0	4	0	1-10	0	3	0
11-20	1	3	0	11-20	5	5	0	11-20	1	3	0
21-30	0	3	0	21-30	0	5	1	21-30	1	4	1
31-40	1	6	0	31-40	0	2	0	31-40	3	5	0
41-50	1	2	1	41-50	0	0	0	41-50	0	2	0
51-60	1	1	0	51-60	0	0	0	51-60	0	0	0
61-70	1	1	0	61-70	0	0	0	61-70	0	0	0
70 and over	0	0	0	70 and over	0	0	0	70 and over	0	0	0
TOTAL	5	18	1	TOTAL	5	18	1	TOTAL	5	18	1

* Mean fall is ½ [(pretreatment systolic+pretreatment diastolic)-(post-treatment systolic+post-treatment diastolic)]
† See footnote Table I.
‡ A rise of 16 mm. Hg systolic occurred.
§ In one of these patients there was a rise of 2 mm. Hg diastolic
** There was a mean rise of 9 mm. Hg.

TABLE 5
DECLINE IN ARTERIAL PRESSURE WITH RAUDIXIN AND ANSOLYSEN

Decline in Systolic Pressure	No. of Patients from Groups †			Decline in Diastolic Pressure	No. of Patients from Groups			Mean Fall *	No. of Patients from Groups		
Mm. Hg	I	II	III	Mm. Hg	I	II	III	Mm. Hg	I	II	III
0	0	1‡	0	0	2	2§	0	0	0	1**	0
1-10	0	1	0	1-10	0	2	0	1-10	1	1	0
11-20	1	3	0	11-20	0	4	1	11-20	1	5	0
21-30	0	2	0	21-30	0	2	1	21-30	0	1	0
31-40	1	1	1	31-40	0	0	0	31-40	0	1	2
41-50	0	0	1	41-50	0	0	0	41-50	0	1	0
51-60	0	0	0	51-60	0	0	0	51-60	0	0	0
61-70	0	1	0	61-70	0	0	0	61-70	0	0	0
70 and over	0	1	0	70 and over	0	0	0	70 and over	0	0	0
TOTAL	2	10	2	TOTAL	2	10	2	TOTAL	2	10	2

* See footnote Table 3.
† See footnote Table 1.
‡ A rise of 30 mm. Hg systolic occurred.
§ A rise of 25 mm. Hg diastolic occurred in one patient.
** A mean rise of 28 mm. Hg occurred.

Side effects were generally few and constituted no serious problem. The incidence of recorded reactions appears in Table 6.

TABLE 6
INCIDENCE OF SIDE EFFECTS

Side Effect	No. of Patients
Nasal Stuffiness	5
Weight Gain	3
Fatigue	1
Loose Stools	1

Discussion

The results of this study confirm the findings of others [3, 4, 6] that whole root Rauwolfia serpentina, administered alone or in combination with other hypotensive drugs, satisfactorily lowers the blood pressure in a significant number of hypertensive patients. The prolonged administration of this drug to most of the patients studied, without serious toxic effect, demonstrates that whole root rauwolfia in the dosages given, may be well tolerated for continuous therapy lasting for months or even years. This lack of serious toxicity is of paramount importance in treating a chronic disease like hypertension.

Summary

Thirty-eight patients with hypertension were given Raudixin daily, either as the sole hypotensive agent, or in combination with Ansolysen, for periods up to thirty-six months. Total daily doses of Raudixin ranged from 100 to 400 milligrams. In 13 of the 24 patients who received Raudixin alone and in 2 of the 14 on combined dosage, the blood pressure declined to normal levels (a mean arterial pressure of 120 mm. Hg or less). The best response was exhibited by patients with mild disease. Symptoms of headache, dizziness, chest pain and shortness of breath improved in the majority of the treated patients. Side effects were minimal and few.

Raudixin is a highly satisfactory agent for prolonged treatment of hypertension.

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The Local Physician and Infant Deaths*

• In a brief article, the author calls to the attention of the local physician the possibility of reduction in infant mortality.

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THE advances made in the field of maternal and child health during the past three decades are evidenced by the spectacular reduction in the maternal, infant and stillbirth mortality.[1] For example, in 1956, maternal mortality incidence to pregnancy and childbirth has decreased to approximately 4 per 10,000 live births, thus showing a reduction of 75 per cent in the past ten years. (Table 1).

Proper Investigation of Causes

The many factors responsible for this progress have been well documented elsewhere. However, it is important to compare the mortality rates of Louisiana with the United States as a whole, in order to evaluate our own progress. A study of these data indicates that Louisiana enjoys a lower maternal and infant mortality than most of the other Southern and Southwestern states.. Further analysis of these data, shows definitely that much remains to be accomplished on a local level. More aggresive programs aimed at determining the exact causes of mortality and morbidity in both mothers and infants, are urgently needed. These programs should include, in addition to careful pathological and clinical studies, methods of prompt dissemination of this information to physicians and local health departments.

The reduction in the number of deaths in premature infants is certainly a major accomplishment of our times. In this field however, much remains to be done, and improvement will depend on further progress in medical science and public health.

As a result of numerous previous studies it has been shown that statistics, to be of any value in studying the cases of *infant death*, must be based on data accumulated from properly done post-mortem studies which are correlated with satisfactory clinical histories. On the basis of such investigation it is not felt that prematurity per se, with rare exception, is an acceptable cause of death. Deaths in prematures are due to abnormal pulmonary ventilation, birth injuries, and infection in a manner similar to that of full term infants.

According to Bundesen,[2] in all weight groups of live born infants, the causes of death in the first week of life are abnormal pulmonary ventilation 60 per cent; malformations 12 per cent; blood dyscrasias 4.9 per cent; injuries at birth (including anoxic intracranial hemorrhage) 9.5 per

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TABLE 1
SELECTED MORTALITY RATES PER 1,000 LIVE BIRTHS FOR LOUISIANA AND UNITED STATES, 1927-1956

Year	Infant Mortality				Maternal Mortality				Still-births			
	United States	Louisiana			United States	Louisiana			United States	Louisiana		
		Total	White	Negro		Total	White	Negro		Total	White	Negro
1927	64.6	77.4	58.4	108.9	6.5	9.1	7.0	12.5	38.8	53.9	37.0	81.8
1937	54.4	65.2	53.5	81.3	4.9	7.4	6.0	9.2	33.4	45.3	33.3	61.8
1947	32.2	37.3	29.7	50.6	1.3	1.9	1.4	3.0	21.1	26.9	18.0	42.1
1956	26.0	30.6	22.5	42.9	0.4	0.5	0.2	0.9	17.2*	18.6	13.7	26.1

* Rate for 1955.

cent; infections 6.8 per cent, and anoxia and miscellaneous 6 per cent.

Inspection of these data reveals that pulmonary hyaline membrane syndrome (abnormal pulmonary ventilation) is our most challenging problem since it accounts for over 60 per cent of all deaths in the first week of life. Over the age of one week other factors assume greater importance such as infections and congenital malformations. Due to prevalence of antibiotic resistant staphylococcus, this infection in the future may assume greater and more serious proportions.

Reduction of Mortality Rates

How much further may the present mortality rates be reduced? Our estimates of this change from time to time as our knowledge broadens as to causes. These causes can only be elucidated by data accumulated in careful scientific studies.

For the year 1956, there were reported 46 maternal deaths, 1674 stillbirths, and 2751 infant deaths. The stillbirths and infant deaths exceeded the number of lives lost in the age period from 1 to 44 years. If we extend our scope to include the losses due to abortion, our problem grows more challenging. Not only are we concerned with increasing the quantity of survival, but perhaps of even greater concern is improvement in quality of survival. To what extent might the incidence of premature birth, congenital anomalies, cerebral injury, and mental defect be prevented? In actuality our purpose goes beyond the reduction and prevention of mortality and morbidity to the goal of positive health for the child, his family and the community.

The reduction in infant mortality has occurred mostly after the first week of life. Mortality under one week has declined less than mortality under one month. Of the 2751 infant deaths reported in Louisiana in 1956, 30 per cent occurred during the first day of life, and 60 per cent during the first week of life. Thus we see the need for greater efforts over that first most important day. Deaths in the first week are largely due to prenatal and natal causes. It is evident that the problems are concentrated in the perinatal period (from twentieth week of gestation through the sixth day of life) and it is to these we must direct our attention to achieve substantial reduction in maternal, stillbirth, and infant losses.

The correlation of perinatal mortality with socio-economic and socio-medical factors has been generally recognized. A recent study [3] has shown that variation from parish to parish of such factors as income, housing, sanitation, stagnation of the local economy, and accessibility of medical care are accompanied by variations in infant and perinatal mortality. Such information indicates in general where the problems are concentrated. It gives direction as to where the development of control methods would more dramatically reduce mortality. If detailed studies as to causes could be initiated in those parishes where such mortality is the highest, headway could be made in determining the proper steps to be taken to alleviate the situation. Such detailed studies could only be done by cooperation of local physicians with local health departments. Already many local physicians are working closely with the preventive and control programs in their parishes, on these important questions.

Summary

I would like to point out that the idea behind this paper is to call to the attention of local physicians that it should be possible to further reduce infant mortality; that the mortality rate is highest in those parishes with the worst socio-economic factors and that the public health agencies would be glad to help in whatever manner might be worked out in cooperation and with the suggestion of local physicians.

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Prophylactic Planing of the Aged Patient for Cancer of the Skin*

• Results of planing over 500 patients far precancerous cutaneous lesions indicate that the pracedure is effective nat anly in impraving the cosmetic appearance of disfigured or aged skin, but also, in managing certain cutaneaus diseases, removing visible precanceraus keratases, and preventing or delaying development of new precanceraus and cancerous lesians in apparently normal aged skin.

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CONTINUED advances in medicine are succeeding in prolonging the life span of mankind more and more; a new goal of one-hundred and fifty years has been predicted in the lay press. This apparent medical advance might, ironically, result in dissatisfaction of many persons to whom the external manifestations of aging are unacceptable, were it not for the advent of surgical planing.

This technic, also known as wire brush surgery or dermabrasion, is an office procedure that involves use of a high-speed rotary wire brush or abrasive wheel and a local refrigerative anesthetic to remove levels of skin and thus obliterate cutaneous defects. Healing takes place beneath a crust in a manner similar to the healing of a brush burn. Initially restricted to correction of scars, this procedure is now used for other cosmetic defects and certain cutaneous disorders. Whether planing is more valuable in obliterating scars of adolescent acne or of cutaneous changes of the aged is controversial.

A recent analysis of patients from the Tulane Planing Clinic at Charity Hospital indicated that many more sought correction of senile changes of the skin than of scars or other defects. This undoubtedly reflects subjective as well as objective success. Furthermore most patients in this group were planed not because of cosmetically undesirable premature signs of aging (Figures 1 and 2), as is the case in private practice, but for advanced clinically and pathologically manifest senile changes (Figure 3).

These subjects are usually farmers, sailors, fishermen, or persons with weather-beaten skin; for the most part, they are fair-skinned, redheaded, blonde or cha-



Figure 1. (a)—Wrinkles and keratoses of aged skin before planing.

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Figure 1. (b)—Six months after planing cheeks. Eleven months after planing forehead. Note cosmetic improvement.

taigne, blue-eyed persons of the southwestern and Gulf Coast states who are susceptible to development of precancerous and cancerous diseases of the exposed surfaces of the skin. Clinical and pathologic changes in their skin are similar to those resulting from chronic exposure to radiation. Early in life, these persons seek dermatologic care for superficial keratoses; later, they return for removal of advanced keratoses and epitheliomas. Whether these lesions are treated by excision, cauterization, or radiation, the patient is reluctant to accept the resulting cosmetic defect. He finds unsatisfactory the prophylactic advice to avoid exposure to the sun and to lubricate the skin, and the physician realizes that it is too late to prevent the inevitable changes initiated by ancestry and preceding years of exposure to the elements.

The present discussion is concerned primarily with the objective results of planing such precancerous keratoses as keratosis senilis and those keratoses caused by exposure to sun, arsenic, radiation, as well as certain superficial and relatively benign types of epitheliomata. Cosmetic improvement that results from removal of these lesions, as well as those with less malignant potentialities, such as the seborrheic keratoses, wrinkles, and pigmentation, is apparent.

Procedure

More than 500 patients have been planed for precancerous lesions in my private practice and in the Tulane Planing Clinic of Charity Hospital at New Orleans. The technic was essentially that described in previous publications.[1, 2] A mixture of ethyl chloride and dichlorotetrafluroethane was used as a local anesthetic. Abrasion was usually accomplished with a wire brush of the Kurtin type. Coarse diamond fraises were used for superficial keratotic lesions and areas involving the hairline, ears, eyes, nose, and mouth.

Patients subjected to full face planings at Charity Hospital were hospitalized pri-



Figure 2. (a)—Seborrheic keratoses of aged skin.



Figure 2. (b)—Four and a half months after planing. Note cosmetic improvement.

marily for postoperative studies, the results of which have been reported elsewhere.[3] Their ages ranged from 42 to 85 years. Various anatomic sites were planed, the face and dorsa of the hands most frequently. These studies confirmed previous observations that the face provides the most favorable anatomic site for planing. The thinness of the skin of the dorsa of the hands, with the relative lack of appendages and mobility, was apparently responsible for delayed healing and less desirable cosmetic results.

Planing has several advantages over well-established routine methods of destruction, such as cauterization, desiccation, and radiation.[2] The technic provides an unobscured, bloodless operative field. Because healing takes place without scarring, the size of the area to be eradicated is not limited by any pressure; large planed areas heal almost as readily as small ones. Within a few hours after planing, the epithelium begins to regenerate and, in some cases, is complete within seventy-two hours; whereas after cauterization or desiccation, sloughing of tissue is required before repair begins, thus encouraging infection. Furthermore, the scars from burns and radiation are precancerous lesions. Operation for removal of multiple superficial keratoses of the face, however efficient, remains impractical.

Results

Keratoses:—Regardless of the method of removal of individual keratotic lesions, recurrence at or near the operative site is frequent. Certain cutaneous areas, such as the ears, nose, temples, and malar prominences, are susceptible sites of multiple keratotic lesions. The presence of multiple scars at treated sites would tend to support the concept that whatever change has taken place in the skin involves a wider area than the individual lesion itself (Figure 3a). For this reason, when multiple keratoses involve an area like the nose, the entire nose is planed rather than the individual lesions. To such a



Figure 3. (a)—Precancerous and cancerous lesions of 55 year old man.



Figure 3. (b)—Close-up of 3a, showing keratotic state of skin adjoining and impinging upon corrective graft.



Figure 3. (c)—Four months after planing. Residual keratoses near graft removed by second planing.

patient, this prophylactic approach to the problem is practical and readily acceptable.

The routine care of a patient with multiple keratoses of the face involves frequent periodic examinations, preferably by the same physician, to determine which keratoses are sufficiently advanced to require removal and which deserve biopsy. To the well indoctrinated patient, it is often apparent that certain lesions are growing and in need of professional care. Regardless of how enthusiastic an advocate of biopsy the physician may be, he must be practical and rely on his clinical diagnostic acumen to determine which lesions require laboratory examination.

In the present series of patients, biopsy of advanced keratoses was carried out before planing, not only to determine whether they were malignant, but also to ascertain the depth of planing necessary for complete removal of the lesion. Advanced senile keratoses and early intra-epidermal epitheliomata were accepted for planing; whereas invasive squamous cell carcinomata were treated by other means. As in previous planing experience, these keratotic lesions did not require heavy pressure upon the abrasive tool or prolonged planing over the site, since epithelial tissue is readily removed by planing and normal connective tissue offers a certain amount of resistance to the instrument. In fact, the routine abrasive stroke, as it passes across the skin, spontaneously causes deeper digging into these sites and tends to meet resistance as normal connective tissue is impinged upon. The operator's cognizance of the presence of more advanced lesions undoubtedly leads to more thorough planing over these sites.

Radiodermatitis:—Scars from radiation that are devoid of appendiceal epithelial regenerative sites are not considered to be amenable to cosmetic improvement by planing, since healing must take place by secondary intention from the edges of

the wounds, resulting in scarring. It would seem, then, that the decision to plane radiated skin should be based not on the amount of exposure to radiation, but on the stage and degree of radiodermatitis that exists or, more specifically, on the presence or absence of appendages. Most of the patients in this series, subjected to full face planing, had one or more scars 1 to 3 cm. in diameter that had resulted from therapeutic radiation for cutaneous cancers. These sites were planed not only for cosmetic improvement but for removal as precancerous lesions. As would be expected, the extent of delay in healing was directly related to the size of the scars. Larger scars from radiation were cobblestoned with punch grafts and subsequently planed.

Early in planing of acne scars, many patients were observed to have evidence of radiodermatitis as a result of previous radiation for acne. In those with patent orifices of appendages, healing and cosmetic results were comparable to those involving unradiated skin. This response was anticipated in view of the fact that senile cutaneous changes, whether they occur naturally as a result of the aging process or prematurely from exposure to the weather, are similar to those found in certain stages of chronic radiodermatitis. Both states may be associated with atrophy of epidermis, dermis and appendages, elastosis, telangiectasis, keratoses, and epitheliomata.

Although on clinical and pathologic examinations after planing no evidence has been found of recurrence of these superficial signs of damage from radiation, these observations must be considered preliminary because of lack of paired control sites and the relatively short postoperative period of observation. Late sequelae of radiation, such as ulceration resulting from damage to deeper vessels, should not be influenced by such a superficial procedure as planing. Preliminary results in planing of such sites of radiation have prompted studies to determine the value of this procedure as prophylaxis against superficial damage from radiation of the skin.

Epitheliomata: — The present report, which concerns experiences in the use of a new treatment of certain specific types of epitheliomata, is not intended to prove or disprove the efficacy of the various accepted methods for treatment of cancer of the skin. Certain of these have proved unsuitable as routine treatment, either because of the use of unjustifiable radical measures for relatively benign neoplasms (unfortunately bearing the name of cancer) or because the morphologic variations prevented satisfactory response. The specialist's primary aim in treatment of these lesions should be complete removal, his secondary consideration a satisfactory cosmetic result. The wire brush has proved to be an efficient tool capable of penetrating to desired or, unfortunately, even undesired depths. A capable operator, however, using an efficient instrument (wire brush), can plane as much tissue as necessary for adequate removal of such tumors.

In the present series of patients, lesions of suspicious epitheliomatous character were subjected to biopsy for definitive classification as well as for estimation of the depth of radiation. Naturally, only superficial lesions were accepted for planing. Among the group planed were patients with superficial, nonulcerated, early, basal cell epitheliomata, Bowen's disease, (intra-epidermal carcinoma), superficial epitheliomatosis, benign cystic epitheliomata (Brooke's tumors), syringomata, and cylindromata (Figure 4). Incidence of recurrence of these lesions after planing has certainly been no greater, and has probably been less, than with other methods of treatment. Unquestionably, the average cosmetic result, in spite of the operator's enthusiasm for total extirpation, has been far superior. Here again, as with radiodermatitis, results are preliminary because of the relatively short postoperative period.

Summary

Results of planing over 500 patients for precancerous cutaneous lesions indicate that the procedure is effective not only in



Figure 4. (a)—Multiple benign cystic epithelioma.



Figure 4. (b)—Five months after planing. Note cosmetic improvement and residual lesions.

improving the cosmetic appearance of disfigured or aged skin but also in managing certain cutaneous diseases, removing visible precancerous keratoses, and preventing or delaying development of new precancerous and cancerous lesions in apparently normal aged skin. Unplaned skin of these patients provided satisfactory control for evaluating results of treatment. Although it is too early to predict the duration of the effect, some patients who have been observed for as long as four years after planing have had no recurrence of their preoperative keratotic state.

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Board of Health and Yellow Fever

We stated in our last number that the Medico-Chirurgical Society of Louisiana had been constituted by the General Council a Board of Health for the City of New Orleans; also that nine of its members had been appointed by this Society a Committee of Public Hygiene, whose duty it is to attend to all sanitary regulations. One of the first objects of attention with this committee was to ascertain the origin of Yellow Fever in this City. With this view, they kept a vigilant eye to everything of a local nature that might give rise to the disease, and at the same time they called upon the Collector of the Port of New Orleans, and requested him to have reported to them whatever sickness there might be on board vessels coming in. These orders, however, were not attended to, and several vessels from Vera Cruz and the West Indies, where Yellow Fever was prevailing, were permitted to enter without examination; but it has not been ascertained that any of them had sickness on board. * * * Those who believe the disease to be **infectious**, and that to prevail here, it is necessary for it to be imported from abroad in some manner, are not satisfied with the observations that have been made upon ships coming into port this year. In future they will probably be more rigid.

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Fundamentals in the Management of Asthma

• The authors outline the treatment of asthma together with their views on the use and misuse of the steroids in its management.

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Prologue

WE are currently seeing a great enthusiasm for the highly potent steroid hormones in the treatment of asthma. While these hormones have their proper place, they should not be used in many cases. Most patients will have an adequate response to simpler and less hazardous medications. More important may be the fact that proper allergy managment is not being utilized. It is a sad fact that too many physicians feel that the treatment of the asthmatic begins and ends with one steroid or another. We are all familiar with the fact that undesirable side reactions may accompany their use. As a matter of fact, it has recently been pointed out that the mortality in asthma has not decreased since the steroids have been available.[1]

To the allergist, these drugs should only be used in exceptional cases, especially in those who have been proven to be unresponsive to more orthodox methods of management.

This introduction points up the fact that we need to re-evaluate certain basic fundamentals relating to the causes and treatment of asthma.

Definition

Asthma is a chronic, allergic disease of the bronchiolar tree. It is characterized by wheezing, dyspnea, and intermittent cough productive of thick, tenacious sputum. *Status asthmaticus* is a persistent attack of asthma with dyspnea lasting for days or even weeks.

Classification of Asthma

While asthma may be classified in several ways, one of the most widely used methods is to regard it as being extrinsic or intrinsic. In the first group, we find patients whose asthma is due to something of an extraneous nature — an inhalant, food, pollen, mold spore, etc. In the latter group, clinically positive skin reactions are not observed, and the asthma is thought to be due at times to sensitization to some endogenously produced antigen, or associated with bacterial infection.

In another way, we may consider that asthma is due to an extraneous antigen (noninfective type); whereas in other patients, we may think that asthma is due to the presence of organisms or their products (the infective type). We may also have the mixed type which has both "infective" and "noninfective" components.

Another classification of asthma is the seasonal variety which is associated with sensitization to some pollen, mold, or inhalant antigen, the concentration of which varies with the season. The perennial type is often associated with infection. It frequently appears later in life, and may be

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recurrent, chronic, progressive, and may be accompanied by emphysema.

Etiology:

Bronchial asthma is believed to be caused by a basic antigen-antibody reaction within a shock organ. In man, the bronchi and smaller bronchioles are the shock organs, along with the skin, and other organs. In other species almost any organ can be senstitized to some allergen and developed into a shock organ.

According to this theory the individual is first sensitized to a small dose of the offending substance—say, pollen, for instance. When next he inhales this same pollen, even in minute dosage, the respiratory tract is the site of a typical reaction and the usual symptoms common to asthma appear—wheezing, coughing, dyspnea, etc.

Specifically, many substances may cause asthma. It is interesting to note that most of them are protein in nature and all of them contain nitrogen. The most common precipitating antigens are as follows:

House dust	Animal danders, feathers and other inhalant antigens
Pollen	
Bacteria	
Mold Spores	Textiles and fabrics
	Foods

Pathogenesis

The major features of the asthmatic attack are:

1. Bronchospasm.
2. Edema of the mucosa.
3. Increased mucus production.

In asthma, goblet or goblet-like cells may be substituted for the normal columnar ciliated cells. Therefore, more mucus is secreted which may be intimately attached to the cells and therefore difficult to expectorate. Much of the respiratory distress of chronic asthma is caused by the presence of this mucus.

An allergic response such as is seen in the antigen-antibody reaction, may trigger the attack of asthma. The episode may also be initiated by nonspecific factors such as: emotions, fatigue, weather changes, chemical irritants, etc. Asthma has also been found to be associated with autonomic nervous system imbalance.

Pathology in Advanced Asthma

Examination of the sputum and nasal secretions shows distinctive features in the asthma patient. Freshly made slides show gelatinous globules which, when fixed, appear as typical Curschmann's spirals. Also seen are Charcot-Leyden crystals (long, pointed octahedrons varying in length from 25 to 50 microns.) When properly stained, smears of sputum and mucus contain large numbers of eosinophiles. In acute cases this increase of eosinophiles is often reflected in the peripheral blood which may include as many as 30 per cent of these cells; 5 to 10 per cent is a more common figure in the usual asthmatic.

Histologically, the bronchioles reveal a columnar type of epithelium with multiple goblet cells, loss of ciliated cells, and quantities of mucus, as well as a thickened basement membrane. The lumen is narrowed and the musculature is hypertrophied.

Alveoli are distended, septa ruptured and pneumonic exudation is seen at times. The arteries demonstrate thickened intima and in advanced cases, atheromatous changes, secondary to the pulmonary hypertension, result in cor pulmonale.

Diagnosis of Asthma

The typical asthmatic has difficulty in expiration, and wheezing breath sounds may be heard over the lung fields, usually from the apex to the bases. Hyperresonance may be obtained on percussion, which is due to acute emphysema. In the more or less subsiding cases, heavy rhonchi may be heard, which are due to the presence of plugs of mucus in the bronchi.

Cough is common and may be either nonproductive or yield a thick, stringy, mucoid sputum. Wheezing is pronounced, particularly during expiration, due to narrowing of the bronchiolar tree. Finally, in severe cases, emphysema develops; cyanosis may be seen late in the disease.

X-ray examination of the chest shows no characteristic findings in the early

acute case. Bronchovascular markings are sometimes increased, and after emphysema has developed barrel chest and fixed diaphragm are often observed.

Differential Diagnosis. "All that wheezes is not asthma!"—An old but true adage. This includes:

1. Disorders of the larynx which are associated with respiratory obstruction. Examples are: Spasm, croup, foreign body and neoplasms.
2. Disorders of the bronchi: Foreign body, neoplasms, bronchostenosis.
3. Disorders of lungs: Pneumonia, pneumoconiosis, neoplasms, tuberculosis, and granuloma.
4. Cardiac asthma: The differential diagnosis of this condition is very important, since the treatment may radically differ. For instance, morphine may be very important in the treatment of cardiac asthma—but the use of this drug is definitely contraindicated in bronchial asthma. Also, the use of epinephrine may be absolutely contraindicated in cardiac asthma. What is the answer? The circulation time test, if there is not sufficient opportunity for a careful study of the patient. Aminophyllin, intravenously, may at times be used in doubtful cases.
5. "Pseudoasthma:" Sighing respirations and hysterical over-breathing. Such conditions are seen at times, chiefly in females, and must be differentiated from true bronchial asthma.

There is the case of the fourteen year old girl who was brought in with a diagnosis of asthma. Auscultation of her chest did not reveal any rales. It was finally determined that her trouble was emotional rather than asthmatic. She was merely looking for parental sympathy.

Complications

Acute emphysema is always present in an attack of asthma, since typically the asthmatic has difficulty in expiration. As attacks recur, the condition of chronic emphysema develops. These patients may become hopeless respiratory cripples, and may have constant dyspnea. The amount of damage may be accurately measured by pulmonary function tests, which should include measurements of vital capacity, maximum breathing capacity, and timed vital capacity.

Both bronchial asthma and emphysema cause an impairment of ventilation of the alveoli, which results in a disturbance of CO_2 transfer and elimination. Therefore, there is an accumulation of CO_2 in the blood in addition to hypoxia.

The treatment of emphysema in our asthmatic patients is basically prophylactic. In the chronic asthmatic, each attack may lead to further emphysematous changes. All too often many patients with asthma have been treated with symptomatic medications which are merely palliative, then the patient asks for a stronger and then still a stronger drug. The main principle which should guide us is to search for the cause of the asthma.

Once emphysema has developed, as stated above, the patient may become a respiratory cripple. He may require oxygen, possibly under intermittent positive pressure. He may be unable to perform his usual duties in life. It is up to us to prevent this from occurring. Once this state is reached, certain exercises may be beneficial. Oral bronchodilators such as the choline salt of theophylline (Choledyl) provide therapeutic blood levels with none of the gastric irritation found with oral aminophylline, and improve vital capacity. An additional advantage of Choledyl is its safety and effectiveness for long term therapy without drug tolerance. Bronchodilators may be given in aerosol form. Steroid therapy may be helpful in acute crises, but continued use is not ordinarily indicated. Steroids may increase the caliber of bronchioles by relieving inflammation of the walls, but will not affect alveoli stretched and ruptured by long obstruction. Postural drainage may be helpful.

It is recognized that pulmonary function grows progressively less with advancing years, and chronic emphysema is never completely reversible. To some extent smoking may aggravate this condition.

It has been thought that a loss of elas-

ticity of the lungs is the primary cause of this condition. There is a collapse of the bronchioles causing resistance to air flow. This tendency is particularly accentuated during expiration. Finally, fibrosis and distended air sacs develop.

Other complications are: Bronchitis, bronchiectasis, atelectasis, bronchostenosis, bronchopneumonia, subcutaneous emphysema, pneumothorax, mediastinal emphysema, and cor pulmonale.

Specific Management of Asthma

General preventive measures. Diagnostic survey. First of all we must be sure that we are dealing with bronchial asthma. X-rays, blood and sputum studies, bronchoscopy, etc. should be used when indicated. As an example, many patients who complained of asthmatic symptoms have turned out to have tuberculosis, or some other pathological condition, such as bronchogenic carcinoma.

When we are sure that the patient has bronchial asthma, an allergy survey is definitely in order. The good allergist does not rely only on skin testing. There is no substitute for a careful meticulous history; questionnaires are not as thorough. This is because an allergy survey may be closely akin to detective work, and some points must be very carefully explored.

An example of this is the patient who would develop asthma every Sunday night. Careful questioning revealed that he would have dinner every Sunday with his mother. Being of a good Italian family, the *"piece de resistance"* was spaghetti. As we all know, spaghetti is made with wheat. This patient happened to be allergic to wheat. He could tolerate a minimal amount with no symptoms—but a big bowl of spaghetti would lead to wheezing!

This same reasoning could be carried on *ad infinitum.* Many a person may tolerate milk in their coffee—but a pint of milk may result in an allergic reaction.

Let us get away from asthma for a minute. A small boy was once brought to one of us with a chief complaint of eczema which was generalized. The boy had been skin tested by a physician and found to be allergic to egg white. The mother was told to avoid giving him eggs. Therefore, she refrained from giving him hard boiled or softboiled eggs, scrambled eggs, etc., but she continued to feed him cake, ice cream, custard, etc.—all of which contained eggs. Only after giving her a list of egg-containing foods, was the boy's eczema controlled.

The same basic truths also apply to suspected sensitization to inhalant substances. Often the history will supply the clue.

In general, we may say that skin testing with pollen, mold spores, and inhalant antigens is fairly accurate. However, even here we should try to correlate the history with skin test reactions. While it has been said that inhalant sensitizations begin and end with house dust and ragweed—this is definitely not the case, since many patients will prove to be allergic to many other antigens.

If we have a positive skin reaction to a certain antigen, and clinical sensitization is at all doubtful, cautious direct exposure tests are indicated.

It is conceded that skin testing is of doubtful help in many cases of food allergy. Negative skin reactions may be obtained in the presence of true clinical allergy, and on the other hand, positive reactions may occur for foods to which the patient is clearly not allergic. However, skin testing for foods may be helpful. Individual direct food tests are easy to do. The patient should avoid any suspected food, and every related food for seven days. Then the food is again eaten cautiously, and the presence or absence of symptoms is noted.

Another widely used technique is the restricted diet. In this method, foods are eaten that ordinarily do not cause trouble, or are not suspected. Then one food is added each day to the diet. The precipitation of symptoms when a food is added leads to suspicion.

It may, however, be necessary to eat the suspected food for several days, because in the instance of a commonly eaten

food, the symptoms may not appear immediately.

If the patient happens to be allergic to a certain pollen or mold spore, change of locale may help. However, few of our patients can afford to move during the season. Air conditioning or the use of a good air filter may be of tremendous help. Trips to the country should be avoided in pollen allergic patients during the time of pollination.

In the case of the patient who is allergic to some other inhalant antigen, contact should be avoided as much as possible. In the house dust allergic, full directions must be given for its avoidance. It is not generally recognized that immunization may protect against a normal amount of exposure—but not against a massive amount. The patient who is allergic to house dust must not only avoid houses or rooms which are dusty, but must also avoid rooms which are being cleaned, or have just been cleaned. House dust forms in mattresses and pillows, and therefore, dustproof covers are a "must." Sponge rubber or other non-allergenic materials are thought by some to be exceptions to this rule. On the other hand, the patient may be allergic to some substance such as rabbit hair. This material is found in many women's dresses, furs, men's felt hats, etc. If true clinical sensitization is proven, the patient should be provided with a list of possible contacts, in addition to being immunized.

It has been our experience that patients who give a positive skin test reaction to one of these more or less unusual inhalant antigens, will deny contact. An example is the patient who reacts to goat hair. They just do not realize that mohair and many other household materials are made either partly or principally of this substance.

Immunization

Immunization with pollen extracts gives a fairly consistent figure of 85 per cent good results. There are three varieties of specific treatment of this type: (1) Coseasonal, (2) preseasonal, (3) perennial. Best results are seen in the last category. Only temporary or moderate results are seen in the first. The second gives results almost comparable to the perennial method of treatment. Single dose therapy of respiratory pollen is currently being investigated.

From the standpoint of immunization to inhalant antigens, we find that more than 85 per cent of patients are benefited. We must remember that avoidance of the offending substance is of great importance. Also, we must remember that an antigen such as house dust will cause more trouble during the time of change of seasons, such as in the fall and spring. To a degree, it causes trouble throughout the winter, and to a lesser extent in the summer.

Bacterial vaccines (both stock and autogenous) are used in treatment by many allergists.

Contributing Nonspecific Factors

1. Weather.

It is well recognized that most patients with respiratory allergy will respond more or less simultaneously to weather changes. Most patients will state that changes in humidity and temperature will have an adverse effect. Changes in barometric pressure do not seem to have such an effect. The passage of a cold front seems to affect most patients adversely. Whether it is that fact or meteorologic phenomena remains to be seen. However, it has been specifically observed that weather changes affect most asthmatics.

2. Emotional.

Most allergic patients and asthmatics are benefited by a relaxed emotional state. Many patients are helped merely by a vacation.

On the other hand, many patients have an emotional problem. We need only to cite the case of the woman who would have asthma particularly after contact with her sister, to whom she was emotionally maladjusted. However, a careful allergy survey revealed true allergy to house dust, which was also a factor. The emotional upset would trigger the attack.

Therefore, it is important to emphasize to our patients that emotional tranquility

is a most desirable part of their treatment. The factor of stress should never be overlooked.

Symptomatic Treatment of Asthma

Remember the statements made under the pathogenesis of asthma; the treatment of the attack depends on these facts. As an example, if the attack is sudden, contraction of the bronchiolar musculture should be suspected, along with possible edema of the mucosa. Here the ideal treatment is epinephrine (Adrenalin) or ephedrine (both sympathicomimetic drugs.)

If the attack is chronic or recurrent, expectorants should be used. This would include iodides, chlorides, steam, and guaicol compounds. Antihistamines may have a place in the prevention and treatment of asthma. They may help coughing which is often a feature. On the other hand, a productive cough may be beneficial since it may help to get rid of plugs of mucus.

Any number of therapeutic agents have been used in the treatment of asthma, since it is such a common disorder. Bronchodilators, sympathicomimetic preparations, expectorants, etc., have all been used. The basic standby consists of a combination of ephedrine, theophylline and phenobarbital. Ephedrine, of course, is a sympathicomimetic drug; theophylline, a relaxant of bronchial musculature; and the phenobarbital helps to allay apprehension. This combination (Tedral) is quite reliable, safe, and is the most widely used. It will give relief to most patients with bronchial asthma. Tedral when used prophylactically in routine doses will prevent acute attacks. The drug will also block the acute attack if taken when the first symptoms are noticed.

Ephedrine or theophylline compounds may also be given individually in oral doses. Synthetic ephedrine compounds, such as Propadrine, may be used. Parenteral administration of epinephrine and aminophylline is sometimes used, as is nebulization with epinephrine and its analogues. Rectal preparations include aminophylline, either in the form of suppositories or in solution. A combination of ephedrine, theophylline and phenobarbital in the form of Tedral suppositories is helpful.

Treatment of Status Asthmaticus

In addition to the basic concepts of therapy outlined above, it becomes necessary in severe intractable asthma (status asthmaticus) to use exceptional therapeutic measures. The first procedure is a change of environment, to remove the patient from possible causative offending factors in the home. This is preferably accomplished by hospitalization in a dust proof environment. Correction of anoxia by cautious administration of oxygen may be life saving. Respiratory acidosis may be a complication. Potent bronchodilators such as intravenous aminophylline may be considered. Suitable antibiotics are required as well as correction of dehydration and electrolyte disturbance. Here steroids have their greatest usefulness as prescribed in recommended dosages. Sedatives may be required to allay the apprehension of the anxious patient. Narcotics are contraindicated. Bronchoscopy may be required to remove inspissated secretions which obstruct the airway.

Complications of Steroid Therapy

Basically we may consider that the complications of steroid therapy may be classified as either metabolic or anti-inflammatory:

1. Metabolic
   a. Disturbed carbohydrate metabolism
   b. Disturbed electrolyte metabolism
   c. Osteoporosis
   d. Retardation of growth and development in children
   e. Psychosis
   f. Hypertension
   g. Muscle weakness
   h. Relative adrenal insufficiency
2. Anti-inflammatory
   a. Masking of latent infection
   b. Breakdown of tissue
      1. Peptic ulceration
      2. Activation of quiescent infection (e.g. tuberculosis)

McMahon and Gordon [2] make the following statements. "It is to be emphasized that corticosteroids are seldom, if ever, curative and that their use should always be accepted as a 'calculated risk'." Later in the same article they say: "In view of all these side-effects, it is imperative that each patient be evaluated carefully before steroids are employed and that the minimal effective doses be used for the smallest necessary time interval".

Pearson [3] states "In particular the use of corticoids as the first choice of treatment cannot be deprecated too strongly".

Irwin and Burrage [4] feel that results to date indicate that long-term maintenance adrenocortical steroid therapy should be limited to patients with long standing asthma of undetermined etiology. McLean [5] also states that the injudicious use of steroid therapy is dangerous. Criep [6] states that triamcinolone is not to be used as a substitute for careful medical and allergy management. He also points out that there are real dangers which accompany its use, as with all corticosteroids and with corticotropin. Unger [7] emphasizes that corticotropin and cortisone preparations should be used only after the failure of standard measures.

Based on the experiences outlined above, may we make a plea for the return to the more basic fundamentals in the management of bronchial asthma.

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Medical Societies of New Orleans

It is with pride and great pleasure that we are enabled to refer to the spirit and energy with which the medical societies of our city are conducted at the present time; for it affords the best evidence of the reformation that has taken place in the profession within a recent period. Two years ago there was not a medical society in operation in the city of New Orleans—there was no union among physicians; no combination of effort to elucidate the nature and causes of disease, or to aid and enlighten each other in the arduous business of practice.* * * Now we have two medical societies in constant operation, comprising nearly all the respectable physicians of the city, and in accordance with the veritable adage, "E collisione scintilla," an impulse has been given to medical investigation, and intellectual power will be developed.

The Louisiana Medico-Chirurgical Society was incorporated by an act of the State Legislature, dated April 1, 1843.

The Physico-Medical Society was established many years since, and we are informed was formerly kept up with much spirit; but from some cause it was suffered to languish, and for five years past its operations have been entirely suspended. It affords us much pleasure to announce the reorganization of the Society, and from the union and energy which seem to prevail in its councils, we are induced to anticipate the most auspicious results.

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Editorial

Mass Education and Immunization Program Against Tetanus

It would be well for the physicians of Louisiana to undertake a mass education and immunization program against tetanus. This disease is far more prevalent in Louisiana than in other areas. There are too many situations in which we are first where it would be better if we were last. The prevalence of tetanus is one of these.

Tetanus is almost a wholly preventable disease. The efficacy of tetanus toxoid in prevention is shown by the U. S. Army experience during World War II. Only one soldier died after having been properly immunized against tetanus with toxoid out of 2,734,812 hospital admissions for wounds and injuries, in each of which tetanus was a possible exposure. In contrast with this, in Louisiana, in the ten year period 1948 to 1957, there were 341 cases of tetanus with 189 deaths, or a mortality rate of 55 per cent. This is equivalent to an annual incidence of 1 per 100,000 population. However, in New Orleans, in the three years 1955 through 1957, there was an annual incidence of 2 per 100,000. Further comparison shows that tetanus in Louisiana is endemic with an annual incidence rate of about ten times that of the United States. In Charity Hospital last year there were seven times as many deaths from tetanus as from polio. In the previous year, there were three times as many deaths from tetanus as from polio.

In the face of these unpleasant but substantial facts, the Orleans Parish Medical Society has instituted an educational program for the medical profession. It is planned that this will lead to an inoculation campaign for the public. The Committee on Tetanus Protection of the Orleans Parish Medical Society, under the effective chairmanship of Dr. Richard A. Faust, is presenting a series of informative bulletins. Facts concerning the prevention of tetanus have been assembled and the prospect of being able to prevent

more than the statistically probable 189 deaths in the next ten years is inspiring.

Mass immunization has as much value in a properly organized program of civil defense as it has in the armed forces. All individuals who have had military experience in the recent war are already immunized. Their immunity can be kept active by inoculations every five years. Protection following immunization develops in a matter of months and is known to endure from five to possibly eleven years in some instances. Booster inoculations should be given every five years, and at the time of occurrence of a significant tetanus exposure. Following such a booster, there is a recall of high level protection against tetanus, which begins in four to six days.

Allergy to tetanus toxoid is rare. It may be manifested by soreness or swelling at the site of injection, and possibly, fever for twenty-four hours. Protection with toxoid is attended by less risk and greater security than that which can be gained by the use of antitetanic serum, also spoken of as tetanus antitoxin. The risk of dangerous allergy, and even anaphylaxis, with the serum is a significant one. Giving a test dose of 1:10 or 1:100 dilution is regarded by some as dangerous and there are those who advocate that the dilution of the initial test dose be 1:1000. In the absence of anaphylaxis, serum sickness is a prevalent condition which follows the injection of the antitoxin and may be accompanied by distressing illness of various types. The protection afforded by 1500 units of antitetanic serum lasts only a week. In doses three to ten times larger it lasts proportionately longer. The routine of proper surgical treatment of the wound involving a possible exposure to tetanus infection should be carefully carried out. Protection afforded by the toxoid does not alter established surgical principles.

The antibiotics are bactericidal for *Clostridium tetani,* but are not protective against the circulation of fixed toxin. Penicillin is known to kill both the tetanus germ and the spores, but does not kill the latter in the doses currently used. There are situations where it is desirable to use both the antitoxin for quick effect and the toxoid for ultimate protection whether as a booster or not. It is possible to give both at the same time using separate syringes and different extremities as the site of inoculation.

The continuous protection afforded by toxoid immunization is of great value in the treatment of trivial wounds. Insignificant injuries may not come under the view of a physician, and even if so, specific protection against tetanus may not be considered necessary. Yet 50 percent of the cases of tetanus occurring in the United States result from just such wounds in unimmunized people.

We have, therefore, within our reach the means to prevent most of the cases of tetanus that might occur. The use of this preventive treatment is attended by a minimum of discomfort and no perceptible risk. Either the milky or clear toxoid may be used by giving two or three injections, respectively, a month apart and an additional injection a year later. One inoculation should be repeated every five years and at the time of any significant tetanus exposure after the first year.

Medicine's efforts to maintain stable and dependable methods of practice have brought criticism that we are against everything. Our defense is that we are against folly. In the matter of tetanus prevention we have an opportunity to take the initiative in promoting a procedure which is safe, practical, and protective, and in accordance with medicine's highest ideals of guarding the public health.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

REPORT OF THE PRESIDENT

In conformity with the constitutional requirements, your President submits the following report to the House of Delegates and membership of the Louisiana State Medical Society.

The functions of the Medical Society during the past year have been executed by the various officers and committees with thoughtfulness and diligence. The details of their actions will be found in the reports of the respective officers and committee chairmen.

During his term of office, your President has had an opportunity to visit most of the societies throughout the state and wishes to express his appreciation to the officers and members of those societies for the kindness and genuine hospitality which made these visits a real pleasure. In all instances he found a desire and willingness to cooperate with the State Society, and the doctors have been most helpful in making suggestions and recommendations for the betterment of Organized Medicine.

As is usual during a legislative year, the efforts to protect the integrity of the Medical Practice Act of the State of Louisiana were of prime importance. Due to the efforts of the Chairman of the Legislative Committee, the work of the Legislative Consultant and the unusually fine cooperation of the membership as a whole, we have again been able to defeat by a bare margin the undesirable legislation which was proposed. Your President feels that this margin was maintained only through a more effective organization and the persistent effort of individual members. However, if we are to continue to preserve the Medical Practice Act in the future, an even better organization and more continuous effort on the part of individuals will be necessary. A most effective public relations activity was conceived and initiated by the Legislative Committee and Legislative Consultant when an Emergency Station was set up in the State Capitol. This Station has been equipped by the State Medical Society and is to be staffed by the members of the East Baton Rouge Parish Medical Society. The Medical Society has been commended for the service rendered to the members of the Legislature. It is the recommendation of your President that the Legislative Committee be continued in its present form and that the services of Mr. Percy J. Landry as Legislative Consultant be retained.

In connection with the Medical Practice Act, it should also be mentioned that the State Board of Medical Examiners is presently involved in the federal courts. As a result of federal court procedures, it is anticipated that the chiropractic issue will be heard on its merits in federal court. It is the opinion of your President that it will be incumbent on the State Society to furnish informed witnesses who have both national and international recognition in their fields. It may also be desirable for the Society and the medical profession to become a party to such a suit, as the loss of this suit by the State Board of Medical Examiners would leave the medical profession without control as to qualifications and training and thereby endanger the health and well-being of the citizens of our State, who heretofore have been protected against unqualified practitioners. It is therefore recommended that the House of Delegates set up whatever means and mechanics as seem advisable for the successful termination of this legal action.

During the past year the medical profession gained wide lay approval by its support of the Medical Progress Exhibit at the State Fair in Shreveport. There was also favorable reaction nationally as the result of the combined efforts of the Louisiana State Medical Society and the Shreveport Medical Society in the operation of this very large exhibit. There have been requests from other fair organizations throughout the state for the establishment of such exhibits at the smaller fairs. In this work and in similar activities aimed at lay education which have gained favorable publicity, the Council on Medical Service and Public Relations and the firm of Perret and Kalman have been of invaluable assistance. It is recommended that this cooperation with the Shreveport Medical Society be continued and augmented, if possible. It is also recommended that the work of this Council and the Public Relations Counselors be continued and that an attempt be made to expand the coverage so that we might get considerably wider publicity into rural areas than we have had in the past.

Recently the problem of the aging has come to the fore and has assumed political, as well as social, importance on both the state and national levels. It is the opinion of your President that this will develop into one of the most difficult problems with which Organized Medicine will be faced in the next few years. The Geriatrics Committee has done a volume of excellent work on this subject. It is anticipated that the Society will have reasonable representation in the state organization relating to this problem and will be represented at the White

House Conference on the Aging in 1961. Because of the great amount of work expected of the Geriatrics Committee, it is recommended that this Committee continue under its present Chairman and be expanded to include members from all areas of the state.

The American Medical Education Foundation Committee has been extremely active during the past year and has begun to accomplish a great deal. For this effort I wish to compliment the Chairman of this Committee, and also express my appreciation to the Chairman and members of the Woman's Auxiliary for their excellent cooperation, which has contributed so markedly to the success of this program.

The Medicare program has undergone some very radical changes this past year, the details of which will be given by your representatives who handled the business of the Louisiana State Medical Society so well. The negotiations of this Committee accomplished remarkable results in obtaining for the Society what was probably the best contract held by any of the states. Unfortunately, within thirty days after the contract was signed, by federal directive and without consultation the whole program was completely changed. It is recommended that the whole subject be given very careful consideration by the House of Delegates in the light of past experience.

We have also been working for the past year under what is known as the Vendor Payment Plan put into effect by the Louisiana State Department of Public Welfare. Apparently there has been some misunderstanding among members of the profession as to what the intent and decision of the House of Delegates was in reference to this plan as expressed at the last Annual Meeting. It is the feeling of your President that the Department of Public Welfare has made every effort to satisfy all complaints of the medical profession and has been very kindly disposed toward every recommendation of the Advisory Committee of the State Society. This plan apparently has considerable value to members of the profession in several rural areas and therefore it is recommended that this situation be clarified in the House of Delegates at its next meeting. It seems to your President that the direction of the House of Delegates, as presently worded, is not objectionable and offers any physician the privilege of accepting or rejecting the arrangement at his discretion.

It has been the pleasure of your President to represent the State Society at numerous meetings of paramedical groups as well as non-related organizations and it is his feeling that the medical profession has much to gain by such contacts. At the recent convention of the Louisiana Hospital Association, he was invited to meet with the President, President-elect and Secretary of that organization and the President and Secretary of the Louisiana Nurses' Association. At this meeting it was proposed to set up a liaison committee, composed of two members from each of the three organizations, to meet twice a year, one meeting to be held prior to the convening of the State Legislature. Your President was selected to implement the formation of such a committee, subject to approval of the House of Delegates of the Louisiana State Medical Society. In the judgment of your President this proposal has merit. Possibly such a committee could solve many of the mutual problems presently existing, and might very well aid greatly in our legislative program. It is therefore, recommended that the House of Delegates approve the formation of such a committee. In another instance, your President was appointed to the Executive Committee of a Commission, set up at the last session of the State Legislature, to make a study of the problems of sex crime in Louisiana. We were fortunate in being able to have two other members of Organized Medicine appointed to this study group. This contact has a great potential in cementing good relations between the medical profession and members of the Legislature, as evidenced by a growing respect for and a seeking of medical opinion in matters of legislation.

The Louisiana Organizations for State Legislation Committees from the State Society and Woman's Auxiliary have both been very active and we have had fine representation from both of our groups at all meetings of this organization, known as LOSL. It is felt that this contact has been very valuable and should continue to prove helpful as a public relations measure. It gives the Medical Society an opportunity to guide thinking on much proposed legislation pertaining to matters of health and public welfare, and it was possible for the Society to support certain bills endorsed by other organizations which made for good will.

The Society has sustained the loss of one of its most eminent and faithful members in the death of Dr. James Q. Graves. "Dr. Jim," as he was affectionately known, served the Society as a delegate to the AMA for thirty years, and his death will be keenly felt, as will the loss of so many other personal friends and valuable members, who have died this year.

Your President wishes to express his admiration for the work of the Woman's Auxiliary and the splendid cooperation the Society has received this year from the various chairmen, and takes this opportunity of thanking the President and members who have extended him so many courtesies during his administration. This organization is constantly enhancing its value to Organized Medicine as a result of great effort both in their own projects and their active participation in lay organizations where they have been extreme-

ly successful in presenting the aims and ideals of Organized Medicine.

May I commend to you the efficient operation of your Society's office under the direction of your Secretary-Treasurer, Dr. C. Grenes Cole, and the efficiency and helpfulness of the Assistant Secretary-Treasurer, Miss Annie Mae Shoemaker, and their staff. Were it not for the good-humored patience, forebearance and assistance of this competent group during this past year, the office of President would not have been half so pleasant. With it, it has been, not only an honor, but a pleasure to serve Organized Medicine and the Louisiana State Medical Society. In the years to come, I shall cherish these memories and be grateful for the honor which the medical profession has seen fit to bestow on me. To your incoming President, Dr. Robyn Hardy, I offer my sincerest congratulations and good wishes. May you give him the same loyal cooperation so that the Society may continue to progress.

RECOMMENDATIONS

1. Committee on Public Policy and Legislation be continued in its present form and services of present Legislative Consultant be retained.

2. House of Delegates set up means and mechanics deemed advisable for successful termination of legal action with regard to the Medical Practice Act.

3. Continued cooperation with the Shreveport Medical Society with reference to the Medical Progress Exhibit.

4. Activity of the Council on Medical Service and Public Relations and of the present Public Relations Counselors be continued and expanded.

5. Committee on Geriatrics continue under its present Chairman and be expanded to include members from all areas of the state.

6. Consideration given Medicare program in light of past experience.

7. Clarification of Welfare Vendor Payment Plan.

8. Approval of formation of liaison committee, composed of two members from each of the following organizations: Louisiana State Medical Society, Louisiana Hospital Association and Louisiana Nurses' Association.

ARTHUR D. LONG, M.D., President

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

EXECUTIVES SHOW LESS VASCULAR DISEASE THAN NONEXECUTIVES

Being an executive does not necessarily mean that you have high blood pressure or hardening of the arteries.

In fact, a recent five-year study of more than 2,000 individuals showed that executives had less hypertension and arteriosclerosis than did nonexecutive office workers of comparable sex, age, and work environment.

The study, reported in the June 19, 1958, Journal of the American Medical Association, was made by Dr. Richard E. Lee, New York Hospital - Cornell University Medical College, and Dr. Ralph E. Schneider, New York University College of Medicine.

The authors defined an executive as a person dealing with policy formation and implementation. The 1,171 male executives studied ranged from "top executives" (board directors, corporate officers, and general managers) to "minor executives" (division heads, auditors, and others of lesser rank than department heads).

Also studied were 1,203 nonexecutives, of

whom 563 were women. They included stenographers, secretaries, clerks, assistant supervisors, and supervisors.

Of executives, 12.3 per cent had some type of high blood pressure, as did 15 per cent of the male nonexecutives over 40 years of age. Arteriosclerosis of some type was found in 7.8 per cent of the executives and 15.4 per cent of the nonexecutives.

No significant relationship was found between the incidence of heart attacks and the level of business responsibility, the authors said. Heart attacks occurred in 3.7 per cent of executives and 5.1 per cent of the nonexecutive males over 40.

Among the reasons suggested by the doctors for the less than expected rate of executive vascular disease is that these men have learned the value of "escape valves" and the need for outside avenues of expression, such as hobbies.

"The lack of an increased incidence of hypertension among executives as a 'stress' phenomenon further emphasizes the importance of reaction by the individual to his environment rather than the physical and intellectual demands of that environment per se," the authors said.

"Stress is a relative and a subjective matter. When the inherent capacities of the individual to perform fail to measure up to the demands of his world, the harmonious balance between the subject and his environment is disrupted and a stress reaction takes place," they continued.

This occurs, they added, "regardless of whether the factor in the external environment is a speedily approaching deadline for a frantic technical assistant or the threatened failure of a large business venture for the director in charge."

In conclusion, the authors wondered if "at least a part of the recent emphasis on dangers of executive life to the vascular system may be based more on knowledge of the exceptions rather than of the rule."

AIR CONDITIONING IS HEALTHY

Air conditioning—custom tailored climate—means much more than mere cooling.

Properly used, air conditioning implies year-round modification of humidity, air currents, and dust content of air as well as combating cold or heat, said an article in the July 1958 issue of Today's Health, a publication of the American Medical Association.

According to the author, J. C. Furnas, Lebanon, N. J., air conditioning "rescues hay fever suffers from airborne pollen and keeps heart patients at recommended even, moderate temperatures."

It can, he said, "be distinctly 'good for' the healthiest . . . because it takes much of the curse off the bullying heat and smothering humidity of our temper-gnawing, energy-sapping summers."

In order to derive the full benefits from air conditioners, people must learn to keep windows and doors shut, the author said.

The air conditioner is designed on the assumption that it alone will be processing your indoor climate. "It needs no amateur help," he said.

Most people agree that air conditioning is helpful, but ideas of temperature comfort can also vary among individuals. "Humidity itself rules out any possibility of settling on an 'ideal temperature' for human beings," the author said.

A housewife who feels all right at 75 degrees with 50 per cent humidity will swelter if it goes to 80 per cent. Drop the humidity to 20 per cent and she will be chilled.

This is a sound reason for keeping the doors and windows shut. The author said "letting in untreated outside air destroys the humidity-temperature balance on which comfort depends."

Considerable debate still exists over the proper setting of the thermostat, the author said. In warmer parts of the country air-conditioned families often go for the fixed-level theory, ignoring outdoor conditions.

The author recommends, however, a 15 degree spread between the inside and outside temperature. "Thanks to the humidity angle," he said, "this 15 degree spread gets practically all the potential comfort out of home air conditioning."

With an efficient air conditioner keeping interior humidity at the proper 40-50 per cent level, even 80 degree temperature indoors to match 95 degrees outdoors will not be at all oppressive.

" 'It's not the heat; it's the humidity' may be trite," he said, "but it's the backbone of sound air conditioning."

NEW STUDY SUGGESTS POSSIBLE CAUSE OF SCHIZOPHRENIA

A new avenue of investigation into possible chemical causes of the mental illness schizophrenia has been suggested by a Harvard Medical School researcher.

Dr. Samuel Bogoch has found that adult schizophrenics have considerably less neuraminic acid—a component of the brain's gray matter—in the spinal cord fluid than do nonschizophrenics.

In fact, the levels of neuraminic acid in the cerebrospinal fluid of adult schizophrenics is "comparable only to values found in some children under seven years of age."

The low values in adult schizophrenic patients may indicate a form of chemical immaturity of the nervous system. This failure in chemical maturity would correlate well with clinical evidence of a failure of psychological maturity in the schizophrenic, he noted.

Writing in the August 1958 Archives of Neurology and Psychiatry, published by the American Medical Association, Dr. Bogoch said that more studies must be performed before any definite conclusions can be drawn regarding the use of neuraminic acid levels for diagnosing schizophrenia.

Dr. Bogoch said there have been many attempts to show some chemical cause of schizophrenia through the study of blood and urine, but there has been no definite demonstration of a chemical disorder in the central nervous system proper.

Thus his findings present "an important new area for further investigation," he said. One thing to be learned is the meaning of a lowered value of neuraminic acid in the cerebrospinal fluid.

He studied the neuraminic acid concentrations in the cerebrospinal fluid of 29 adult schizophrenic patients; 72 children under the age of seven years; 29 children between the ages of seven and 15, and 65 non-schizophrenic adults.

He found that low values in adults correlated well with the diagnosis of schizophrenia, whether it be an acute first attack or a chronic process of more than 10 years duration.

The exact function of neuraminic acid in the nervous system is not definitely known, Dr. Bogoch said. It appears to play some role in the functions of the "blood brain barrier," which helps maintain the special environment of the brain.

He theorized that low neuraminic acid concentrations might affect the functioning of the barrier, which in turn could account for the brain's misfunctioning and the resulting psychotic state.

Furthermore, it may not be necessary to seek specific chemicals as causal agents of schizophrenia, he said. The "causal agents" may be normal substances produced by the body's physical and chemical process. These substances are usually prevented by the blood-brain barrier from coming into prolonged contact with the brain. However, if the barrier doesn't work correctly, the substances may contact the brain, interfering with its environment and producing mental illness.

Then the possession of an inadequately developed barrier system would represent a "specific vulnerability to psychosis," he said.

Dr. Bogoch believes that this hypothesis can be proved or disproved. In addition, he said that tests are now underway to determine the effect of the administration of neuraminic acid itself and of neuraminic-acid-containing substances to psychotic patients.

Dr. Bogoch is associated with the neurochemical research laboratory of the Massachusetts Mental Health Center, and the department of psychiatry, Harvard Medical School, Boston.

TOY BALLOONS USED TO STOP GASTRIC BLEEDING

Toy balloons in the hands of skilled physicians are now saving the lives of persons suffering from massive stomach hemorrhages.

Writing in the April 4 issue of the Journal of the American Medical Association, four physicians from the University of Minnesota Medical School at Minneapolis reported that they have used the ordinary dime store rubber balloons successfully to stop duodenal ulcer bleeding in nine patients without recourse to surgery.

The technique, based on exhaustive preliminary research with animals, is comparatively simple. The empty balloon, wrapped about the end of a long tube, is passed into the patient's stomach and inflated. With the aid of an intricate machine, a cooling solution, consisting of equal parts of ethyl alcohol and ice-cold water, is circulated through the balloon. Constant temperature and circulating volume is controlled by the machine.

The cooling, which has been carried out in anesthetized animals for 48 hours and in man up to 125 hours, virtually stops gastric digestion and, in turn, also stops the hemorrhaging. As soon as the bleeding appears to be stopped, the machine is shut off, the balloon deflated and removed from the stomach, and the patient is carefully watched for a recurrence of symptoms.

The doctors—Owen H. Wangensteen, Harlan D. Root, Peter A. Salmon, and Ward O. Griffin, Jr.—said that from their observations the gastric cooling technique "holds promising therapeutic value in the management of massive hemorrhages from peptic-ulcer-linked conditions of the duodenum (the small intestine leading from the stomach), the stomach and the esophagus."

Altogether the cooling procedure has been used so far on 19 patients with different types of gastrointestinal bleeding. The majority of patients were in shock despite blood transfusions and their conditions were too poor for emergency surgery. Fifteen of the 19 patients required no further treatment.

COLD VACCINE PREDICTED WITHIN 24 MONTHS

A vaccine which will prevent from 60 to 70 per cent of all common colds will probably be available within the next 24 months, an expert in cold research has predicted.

"I realize that I have stuck my neck out," Dr. Thomas G. Ward, professor of virology at Notre Dame University, South Bend, Ind., said. However, he believes that a vaccine can be developed against "an acceptable proportion of the common colds."

In an interview, reported in the current (April) Today's Health, published by the American Medical Association, Dr. Ward said he does not believe that common colds will be wiped

out, even with an adequate vaccine.

"People are not going to take the vaccine, just as they are not taking polio vaccine . . .," he said. "People are people and we have great difficulty in selling preventive medicine. The prevention of disease is not as glamorous or as consuming to the individual as his actual illness."

From 75 to 80 per cent of common colds are caused by a group of viruses or a group of ordinary bacteria of the streptococcus type, Dr. Ward said. Others may be allergy-symptom colds or psychosomatic.

Viruses are protein substances that cannot be seen, even through a microscope. While related to the one-celled bacteria, viruses are not considered to be living bodies in themselves; they have the peculiar ability to live only in the presence of growing material. In addition to colds, they cause such diseases as measles, chickenpox, poliomyelitis, and rabies. Vaccines composed of dead or "tamed" viruses may be injected into the body and cause it to develop resistance against invasions by the viruses.

Dr. Ward defined a common cold as one wherein the individual has a runny nose two days in succession. This is the nasal type cold which causes the lining of the nose to become reddened and inflamed. No fever is associated with it and it is the kind that may be spread easily to other people.

There is no drug now on the market that could be termed effective against common cold viruses. Colds caused by bacteria may respond to antibiotics and allergy-caused colds may respond to antihistamines.

Until an effective cold vaccine is developed, about the only way to keep from catching cold, according to Dr. Ward, is to "follow the usual health measures such as keeping warm and dry, and well-fed. If possible stay away from those who have colds."

ANTIBIOTICS SHOULD NOT BE USED IN COSMETICS

The inclusion of antibiotics in cosmetics was opposed recently in a report of the American Medical Association.

There is no evidence that "constant degerming" of the skin, such as would be presumed to occur with the use of antibiotics in cosmetics, is "necessarily always or even frequently desirable," according to the report appearing in the April 4, A.M.A. Journal.

The report was written by two New York dermatologists, Drs. Carl T. Nelson and Marion B. Sulzberger, for the A.M.A. Committee on Cosmetics.

Antibiotics are now being used in deodorants to help kill bacteria and thus reduce odor. They have also been suggested for inclusion in face creams and in blemish lotions, according to Veronica L. Conley, Ph.D., committee secretary.

In a note, Dr. Conley said, "The persistent trend toward the incorporation of pharmacologically active ingredients into cosmetics has caused growing concern among the medical profession. . . . Medical experience provides considerable evidence of the health implications in the widespread, prolonged or indiscriminate use of antibiotics."

There is essential agreement, the report said, that antibiotics generally useful in the treatment of systemic infections should not be used in cosmetics. However, it has been proposed that certain other antibiotics (bacitracin, neomycin, polymyxin, and tyrothricin) be permitted in cosmetic preparations.

Even these, which are rarely used other than on the skin, carry certain dangers, according to the report. Some persons may be sensitive to the drugs and develop allergic reactions from continued contact. In addition, little information is available about the possibly harmful effects of the various antibiotics after absorption through the skin.

The possibility of bacteria becoming resistant to the effects of the antibiotics may be increased through prolonged use of the drugs. This would mean that when the drugs must be used to treat a disease caused by a resistant strain of bacteria, they would be ineffective.

In conclusion, the report said, "Except for the deodorant action of such agents in reducing axillary odors, their incorporation in cosmetics has not been proved to be of specific value, and their widespread use in cosmetics could well represent an increased risk to general public health as well as to certain hypersensitive individuals."

FASHIONABLE CLOTHING DESIGNED FOR PHYSICALLY HANDICAPPED

Physically handicapped persons can now buy clothing specially designed to combine fashion and function.

The clothing was designed at the Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, after consultation with Mrs. Helen Cookman, a fashion designer.

Physically handicapped persons have specific clothing problems, Dr. Howard A. Rusk and Eugene J. Taylor of the New York University-Bellevue Medical Center explained in the April 4, Journal of the American Medical Association.

They need clothing designed to permit greater ease in dressing with their limited muscle strength or range of motion. The fabric must also be strong enough to withstand the undue wear caused by friction from crutches or wheelchairs and by the strenuous activity required by handicapped persons in dressing. In addition, the clothes should be fashionable enough to permit greater social acceptance and increased self-

esteem by the disabled persons, Dr. Rusk said.

Of 17 items designed so far, six are now on the market. These include slacks for men and coat-dresses and suit-dresses for women. The clothes for women are especially designed to counteract the destructive effect of crutch-walking.

Fabrics are mostly wash-and-wear nylons and Dacrons, stitched with the strongest threads available, but care has been taken that the fibers do not generate too much electrostatic charge and will not cause wheel chair problems by sticking instead of sliding. Emphasis was also given to the use of closures which can be easily managed.

The clothing is being produced by a new, non-profit organization, Clothing Research, Inc. It is conducting a market test through direct mail selling. If the market test indicates a sufficient market for the clothing, additional garments will be produced and will be distributed through normal commercial channels, Dr. Rusk said.

Specific information about the clothing may be obtained from Clothing Research, Inc., 307 W. 38th St., New York 1.

SECOND ANNUAL MMM AWARDS FOR MEDICAL WRITING

The Editors of Modern Medical Monographs announce the 1959 competition for unpublished manuscripts on clinical subjects in the field of internal medicine. The purpose of these annual awards, which are known as the Modern Medical Monographs Awards, is to stimulate young physicians to communicate their work in the classical form of the monograph and to achieve high standards of medical writing.

The first prize will be five hundred dollars. In addition, the authors of those of the top-ranking manuscripts which are found suitable will be offered a contract for publication of their work as a book in the series Modern Medical Monographs under standard royalty arrangements. The generosity and cooperation of Dr. Henry M. Stratton, President, Grune and Stratton, Inc., publishers of the series, have made these awards possible.

The entries will be judged for style and clarity of expression by a committee of the American Medical Writers' Association and for clinical interest and scientific value by the Editors and Advisory Board of Modern Medical Monographs.

RULES:

1. The author must be a graduate physician, less than 40 years of age.

2. Manuscripts (including illustrations, if any) should be submitted in duplicate (original and one copy) by registered mail, postmarked no later than October 1, 1959, to Richard H. Orr, M.D., 33 East 68th Street, New York 21, New York.

3. The manuscript, including the bibliography, must consist of not less than 130, or more than 200, double-spaced typewritten pages with one-inch margins, and not more than 30 illustrations (pictorial charts, drawings, diagrams or photographs).

4. Fishbein's book, "Medical Writing" (third edition), should be followed in preparation of the manuscript, use of abbreviations, and bibliographical form.

Richard H. Orr, M.D.	Irving S. Wright, M.D.
Consulting Editor	Editor-in-Chief

LOUISIANA STATE BOARD OF MEDICAL EXAMINERS EXAMINATION:

Medicine and Surgery
June 4, 5, 6, 1959

Thursday, June 4, 1959	
8:30 A.M. to 10:30 A.M.	Pathology & Bacteriology
10:40 A.M. to 12:40 P.M.	Chemistry
1:40 P.M. to 3:40 P.M.	Obstetrics
3:50 P.M. to 5:50 P.M.	Hygiene
Friday, June 5, 1959	
8:30 A.M. to 10:30 A.M.	Theory & Practice of Medicine & Physical Diagnosis
10:40 A.M. to 12:40 P.M.	Surgery
1:40 P.M. to 3:40 P.M.	Physiology
3:50 P.M. to 5:50 P.M.	Gynecology
Saturday, June 6, 1959	
8:30A.M. to 10:30 A.M.	Anatomy
10:40 A.M. to 12:40 P.M.	Materia Medica

Applicants must be present at the examination room, 4th floor, Louisiana State University, School of Medicine, 1542 Tulane Ave., New Orleans, on Thursday, June 4, 1959 at 8:00 A.M.

Applications must be filed at 930 Hibernia Bank Bldg., N.O. by May 21st. For information, telephone MA 5313 or write Dr. Edwin H. Lawson, Secretary-Treasurer.

ACTOR SAYS THERE'S NOTHING WRONG WITH BEING OLD

Playing "grandpa" roles for 30 years has taught a famed Hollywood actor that there's really nothing wrong with being old.

In an article appearing in the October 1958 issue of Today's Health, a pulbication of the American Medical Association, actor Walter Brennan said old people spend too much time being sorry for themselves.

"If they'd spend the same amount of time thinking up things they'd like to do or developing an interest in some sort of consructive activity, they'd have much less time for self pity," he observed.

The 64-year-old Brennan is well acquainted with the subject of growing old. In addition to his movie roles, he is currently the star of the

TV program "The Real McCoys" in which he portrays Grampa McCoy. In real life the veteran actor has three children and 11 grandchildren.

From his own experience Brennan said there are certain things he is not going to do as a senior citizen. "First of all," he said, "I'm not going to preach. That seems to me one of the surest signs of senility.

"Then I'm not going to bear any resentment toward anyone, any time; nor am I ever going to compromise any of the principles that have always been important to me.

"And, finally, I'm never going to stop thanking God every morning and evening . . . for all the blessings He's sent my way."

To this personal philosophy, the actor believes Grampa McCoy would add these tips:

—Stop feeling sorry for yourselves; seek out constructive activity.

—Keep your minds and muscles satisfyingly occupied.

—Retain and sharpen your sense of humor.

—Quit compalining and start being thankful.

—Give abundantly of yourselves in any way that you are able.

Brennan also said that he is against compulsory retirement for anyone. "People keep saying to me," he said, " 'Sure, that's fine for creative people like you. But how about machine tool operators or desk clerks or department store buyers?' "

He answers, "Everyone is creative and every job is creative work—if you make it that way. If you don't, retirement isn't going to make any difference. The people who are bored and unhappy before retirement are going to continue the same afterward."

According to Brennan there are two things that can be done for oldsters. We can let them do for themselves as long as they are able and as much as they possibly can.

Secondly, we can make sure that the present younger generation is enlightened on what to do when they grow older.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY, INC.

The next scheduled examinations (Part II), oral and clinical for all candidates will be conducted at the Edgewater Beach Hotel, Chicago, Illinois, by the entire Board from May 8 through 19, 1959. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

Candidates who participated in the Part I Examination will be notified of their eligibility for the Part II Examinations as soon as possible.

The deadline date for the receipt of new and reopened applications for the 1960 examinations is August the first, 1959. Candidates may submit their applications at any time before that date and are urged to do so.

Robert L. Faulkner, M.D.
Secretary-Treasurer
2105 Adelbert Road
Cleveland 6, Ohio

WOMAN'S AUXILIARY

TO THE LOUISIANA STATE MEDICAL SOCIETY

THIRTY-SIXTH ANNUAL CONVENTION WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION ATLANTIC CITY, NEW JERSEY

June 8-12, 1959

A cordial invitation is extended to all members of the Woman's Auxiliary to the American Medical Association, their guests, and the guests of physicians attending the convention of the American Medical Association, to participate in all social functions and attend the general meetings of the Auxiliary.

Headquarters will be at the Hotel Haddon Hall. Business sessions on Tuesday and Wednesday will be presided over by Auxiliary president Mrs. E. Arthur Underwood of Vancouver, Washington.

RAPIDES PARISH

The Woman's Auxiliary to the Rapides Parish Medical Society stressed Public Relations and Community Service in April and presented the movie film, "Albert Schweitzer," in five Alexandria and Pineville schools.

ORLEANS PARISH

The April monthly meeting and program-tea of the Woman's Auxiliary to the Orleans Parish Medical Society offered just too many wonderful treats for any one meeting. The day was the afternoon of the eighth and the place the Orleans Club and treat number one was the official visit of our pretty and charming state president Mrs. Edward M. Harrell of Lafayette, who entertained us with background information of A.M.A. and Louisiana State Medical Auxiliaries.

Mrs. Charles R. Robinson chairman of the essay contest and Mrs. V. Medd Henington co-chairman presented the top winners in the city-wide essay contest on "The Advantages of Private Medical Care" or "The Advantages of the

American Free Enterprise System" their awards. First place winner was Janet Scheibe of Fortier High school; second place went to John R. Tharp of De La Salle High School; third place, Harold Wainer of Fortier, and fourth place, Dorothy Dombourian of Fortier. Janet Scheibe in addition to receiving a check and a small silver loving cup also received for her school a larg silver loving cup to be displayed at Fortier High School. The trophy, presented this year for the first time by the medical auxiliary, is a floating one to be given permanently to the school winning it three times.

Mrs. Branch J. Aymond, Chairman
Press and Publicity.

BOOK REVIEWS

The Rudolph Matas History of Medicine in Louisiana, by John Duffy, (editor). Foreword by Isidore Cohn, M.D., Vol. 1, Louisiana State University Press, 1958. pp. 14-522, ills. 14. Price $10.00.

This is the first part of a two-volume work that will stand as one of the many permanent monuments to the long and distinguished career of Dr. Rudolph Matas, who died in 1957 at the age of 97.

In 1926, Dr. Matas had begun to collect material for a history of the Louisiana State Medical Society; with characteristic thoroughness, he probed varied original and secondary sources of information and accumulated a tremendous mass of records pertaining to all phases of medical history in the State. Dr. Matas, with failing health during the last several years of his life, realized that he would be unable to complete this broadened history and he accordingly arranged that it be carried on under supervision of a committee composed of several of his friends and former students. The committee had the good fortune to secure as editor, John Duffy, of the Department of History at Louisiana State University, and as consulting editor, Mary Louise Marshall of the Tulane School of Medicine, in charge of the Rudolph Matas Medical Library and Professor of Medical Bibliography.

Only one who has examined Dr. Matas' collected records, as I have, can fully appreciate the task that faced the editor in organizing and selecting the material for this book and in the actual writing of it. Already known as a contributor to the field of medical history in America, Prof. Duffy has supplemented that rich store of information and has analyzed the whole with professional expertness. A deep indebtedness is owed this able editor for completing the work begun by Dr. Matas and for doing it in a fashion that he would have warmly commended.

The volume covers the period 1699 through 1825, with occasional brief excursions beyond 1825 at points where the glimpse enlightens then existing situations. Its content is divided into three parts: Louisiana under France, 1699-1768; Louisiana under Spain, 1769-1803; the transitional period, 1804-1825. It is impossible in the scope of a review to do more than characterize the subject matter in general terms. The three parts are natural divisions not only from the standpoint of general history but natural also in that the status of medicine is correlated with the political phases as well as changing aspects of population and of living in the area. Chapter 1 deals with "the starving time," the early part of the French colonial period when human existence was challenged by many severely unfavorable circumstances—shortage of food, rampant disease, and inadequate medical care. From this start the story carries on with attention to the common diseases (notably yellow fever, malaria, smallpox, dysentery), medical men, practice and fees, the regulation of practice, the establishment and maintenance of hospitals, medical organizations, and other general topics. This book is not dead history; it is history that relives for the reader.

HAROLD CUMMINS, PH.D.

PUBLICATIONS RECEIVED

The C. V. Mosby Co., St. Louis: Therapeutic Radiology: Rationale, Technique, Results, by William T. Moss, M.D.; Surgical Pathology, by Lauren V. Ackerman, M.D., in collaboration with Harvey R. Butcher, Jr., M.D. (2nd edit.).

Office of the Surgeon General, Department of the Army, Washington: Surgery in World War II; Neurosurgery, Volume I, edited by R. Glen Spurling, M.D., and Barnes Woodhall, M.D.

Prentice-Hall, Inc., Englewood Cliffs, N. J.: Now or Never; The Promise of the Middle Years, by Smiley Blanton, M.D., with Arthur Gordon.

W. B. Saunders Co., Phila.: Diseases of Metabolism; Detailed Methods of Diagnosis and Treatment, edited by Garfield C. Duncan, M.D. (4th edit.); Fundamentals of Otolaryngology, by Lawrence R. Boies, M.D. (3rd edit).

The Williams & Wilkins Co., Balt.: Diseases of Women, by Ten Teachers, under the direction of Frederick W. Roques, M.D., F.R.C.S. (10th edit.).

Vantage Press, Inc., N. Y.: A Doctor Remembers, by Edward H. Richardson, M.D.



Underweight Children Gain and Retain Weight with Nilevar®

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A highly important feature of the weight gain thus produced is that it is not ordinarily manifested by deposition of fat but as muscle tissue resulting from the protein anabolism induced by Nilevar.

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In this study, the weight gained was not lost after discontinuance of Nilevar therapy although many patients did not continue the sharp gains effected by the drug.

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When Nilevar is administered to children a dose of 0.25 mg. per pound of body weight is recommended and continuous dosage for more than three months is not recommended.

Nilevar is supplied as tablets of 10 mg., drops of 0.25 mg. per drop and ampuls of 25 mg. in 1 cc. of sesame oil. Further dosage information in Searle Reference Manual No. 4.

G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.

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*Brown, S. S.; Libo, H. W., and Nussbaum, A. H.: Norethandrolone in the Successful Management of Anorexia and "Weight Lag" in Children, Scientific Exhibit presented at the Annual Meeting of the American Academy of Pediatrics, Chicago, Oct. 20-23, 1958.

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Meclizine dihydrochloride . . 8.33 mg.
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under 6 months	0.5 cc.	2 or 3 times daily, on the tongue, in fruit juice or water
6 months to 2 years	1.5 to 2 cc.	
2 to 6 years . .	3 cc.	
adults and children over 6	1 tsp. (5 cc.)	

References: 1. Goldsmith, J. W.: Minnesota Med. 40:99 (Feb.) 1957. 2. Groskloss, H. H., et al.: Clin. Med. 2:885 (Sept.) 1955. 3. Weinberg, A., and Werner, W. E. F.: Am. Pract. & Digest Treat. 6:580 (April) 1955. 4. Crawley, C. R.: West. J. Surg. 8:463 (Aug.) 1956. 5. Tartikoff, G.: Clin. Med. 3:223 (March) 1955. 6. Dunn, R. D., and Fox, L. P.: Clinical exhibit. 7. Codling, J. W., and Lowden, R. J.: Northwest Med. 57:331 (March) 1958. 8. Dougan, H. T.: Personal communication. 9. Leonard, C. L.: Personal communication. 10. Steinberg, C. L.: Personal communication

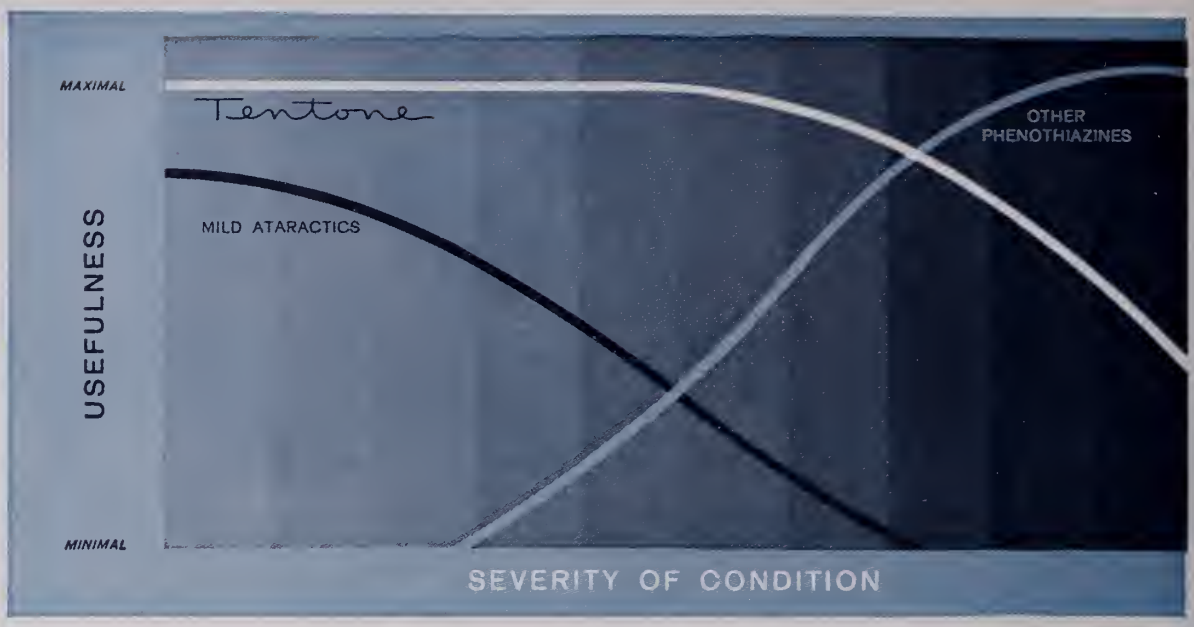
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Action of TENTONE Methoxypromazine Maleate approaches that of the strong phenothiazines without their drawbacks. Calming response is positive and rapidly apparent to both patient and physician. However, as a basic phenothiazine modification, TENTONE allows full therapeutic application in the mild and moderate range of anxiety-tension and somapsychic disorders most usually seen in general practice.

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TENTONE has thus been described as one of the easiest tranquilizers to handle in office practice. In indicated cases, the physician may be relieved of the patient's unnecessary concern over his own illness. In contrast to the previous types of drugs, complaints over induced distress or inadequate benefit are rare.

WHEN MORE THAN MILD SEDATIVE EFFECT IS DESIRED

Consequently, TENTONE is more useful than other ataractic drugs in two areas: (1) mild to moderate conditions—when more than mild sedative effect is sought, (2) middle range of moderate to severe cases—when less than psychopathology is involved.

Indications include ■ common anxiety-tension states ■ obsessive-compulsive behavior ■ neurosis ■ depression ■ situational anxiety and hysteria

And the emotional components of: ■ agitation ■ restlessness ■ tremors ■ insomnia ■ alcohol- and drug-withdrawal syndrome ■ hyperkinesis ■ prenatal anxiety ■ rheumatic disorders ■ dermatoses ■ menopausal syndrome ■ premenstrual tension ■ peptic ulcer, other g.i. disorders ■ asthma, other allergy ■ multiple sclerosis, arteriosclerosis ■ malignancy, other progressive diseases

POSSIBLE POTENTIATION OF ANALGESICS AND NARCOTICS

Since tranquilizing drugs may potentiate the action of pain-relievers, sedatives, and barbiturates, they should be used with caution in conjunction with them, or to achieve a greater response to these drugs in various conditions when desired. They may also be useful in reduction of effective dosage to better tolerated, or non-habituating levels.

ADAPTABLE LOWER DOSAGE RANGES

Dosage must be individualized to severity of condition and response desired.

In mild to moderate cases: varies from 30 to 100 mg. daily.

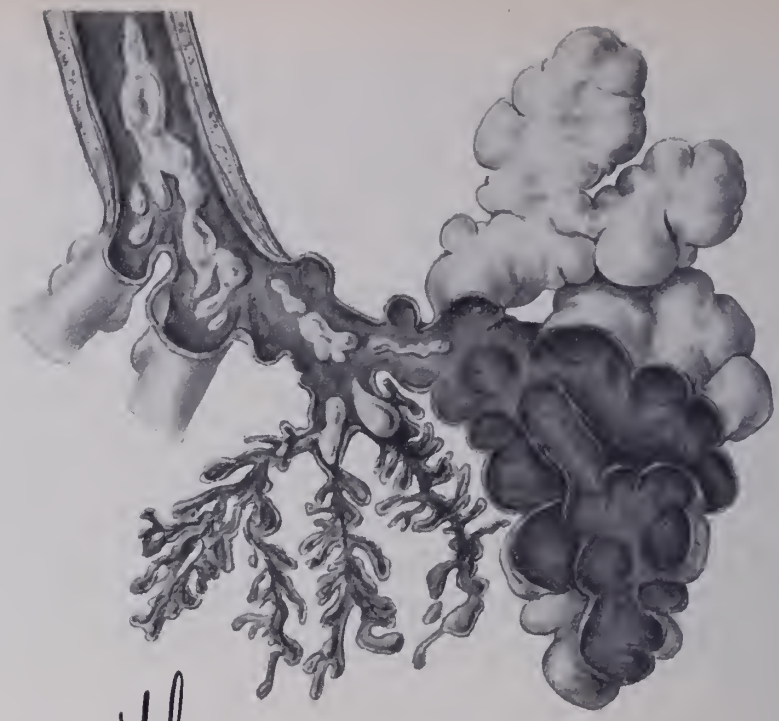
In moderate to severe cases: from 75 to 500 mg. daily.

In psychotic or institutionalized patients, TENTONE may be useful as a substitute when toxicity precludes effective dosage of other phenothiazines, or as maintenance after hospitalization. Dosage may range from 100 to 1500 mg. daily in divided doses.

Supplied: 10 mg., 25 mg. and 50 mg. tablets



Lederle LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, N. Y.



Clear the air

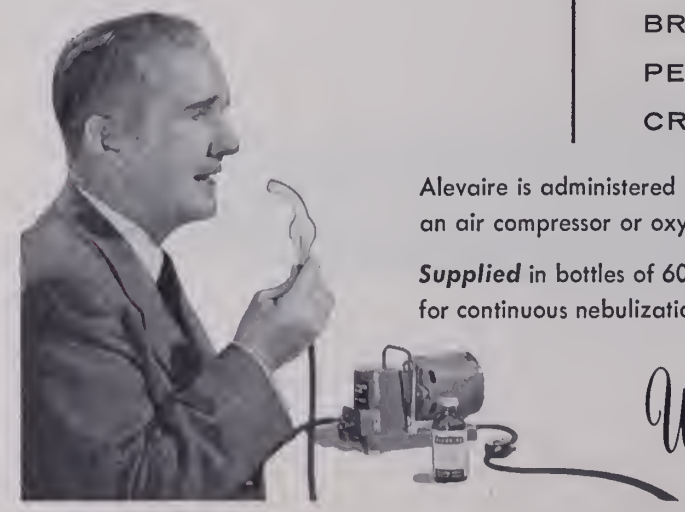
with ALEVAIRE®

inhalation therapy

WETS, THINS, LOOSENS PULMONARY SECRETIONS

Very useful in...

... BRONCHITIS
BRONCHIAL ASTHMA
BRONCHIECTASIS
PERTUSSIS
CROUP



Alevaire is administered by means of a nebulizer operated with an air compressor or oxygen.

Supplied in bottles of 60 cc. for intermittent and 500 cc. for continuous nebulization.

Winthrop LABORATORIES
NEW YORK 18, N Y

Alevaire, trademark reg. U.S. Pat. Off.



Each double-layered Entozyme tablet contains:

Pepsin, N.F. ..... 250 mg.
—released in the stomach from gastric-soluble outer coating of tablet.

Pancreatin, U.S.P. ..... 300 mg.

Bile Salts ..... 150 mg.
—released in the small intestine from enteric-coated inner core.

A. H. ROBINS CO., INC.
Richmond 20, Virginia
Ethical Pharmaceuticals of Merit since 1878

As a comprehensive supplement to deficient natural secretion of digestive enzymes, particularly in older patients, ENTOZYME effectively improves nutrition by bridging the gap between adequate ingestion and proper digestion. Among patients of all ages, it has proved helpful in chronic cholecystitis, post-cholecystectomy syndrome, subtotal gastrectomy, pancreatitis, dyspepsia, food intolerance, flatulence, nausea and chronic nutritional disturbances.

For comprehensive digestive enzyme replacement—

ENTOZYME®

Robins

From basic research—basic progress

A NEW MEASURE OF ACTIVITY



IN EDEMA:

- shows greater oral effectiveness than any other class of diuretic agent
- each 25 mg. HYDRODIURIL orally is equivalent to 1.6 cc. meralluride I.M.
- has been reported to be effective even in patients who do not respond satisfactorily to other diuretics
- has prompt onset of action with diuretic effectiveness maintained even on prolonged daily administration
- low toxicity—extremely well tolerated
- often achieves the benefits of a low salt diet without the unpleasant restriction

Indications: Hypertension, congestive heart failure of all degrees of severity, premenstrual syndrome (edema), edema and toxemia of pregnancy, renal edema—nephrosis, nephritis; cirrhosis with ascites, drug-induced edema, and as adjunctive therapy in the management of obesity complicated by edema.

dosage: In edema—one or two 50 mg. tablets of HYDRODIURIL once or twice a day.

In hypertension—one or two 25 mg. tablets or one 50 mg. tablet HYDRODIURIL once or twice a day.

supplied: 25 mg. and 50 mg. scored tablets HYDRODIURIL (Hydrochlorothiazide) in bottles of 100 and 1,000.

*HYDRODIURIL and DIURIL are trademarks of Merck & Co., INC.

Additional information on HYDRODIURIL is available to the physician on request.

bibliography: 1. Esch, A. F., Wilson, I. M. and Freis, E. D.: 3,4-Dihydrochlorothiazide: Clinical Evaluation of a New Saluretic Agent. Preliminary Report; M. Ann. District of Columbia **28**:9, (Jan.) 1959. 2. Ford, R. V.: The Clinical Pharmacology of Hydrochlorothiazide; Southern Med. J. **52**:40, (Jan.) 1959. 3. Fuchs, M., Bodi, T., Irie, S. and Moyer, J. H.: Preliminary Evaluation of Hydrochlorothiazide ('HYDRODIURIL'); M. Rec. & Ann. **51**:872, (Dec.) 1958. 4. Moyer, J. H., Fuchs, M., Irie, S. and Bodi, T.: Some Observations on the Pharmacology of Hydrochlorothiazide; Am. J. Cardiol. **3**:113, (Jan.) 1959.

HYDRODIURIL (HYDROCHLOROTHIAZIDE)

- highly-active derivative of chlorothiazide
- qualitatively similar to DIURIL® but at least 10 to 12 times more potent by weight
- loss of potassium is clinically insignificant in the great majority of patients on normal diets

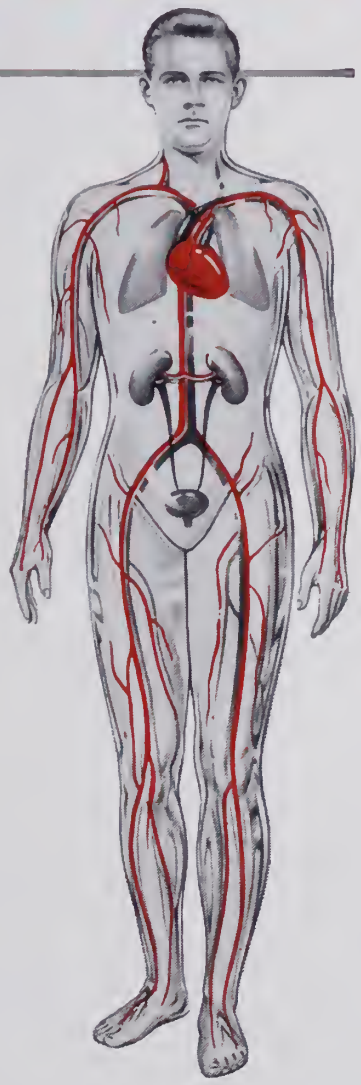
HYDRODIURIL®

NEW RELEASE

HYDROCHLOROTHIAZIDE

IN HYPERTENSION:

- effective by itself in some patients—markedly potentiates other antihypertensive agents
- provides background therapy to improve and simplify the management of all grades of hypertension
- has been reported by some investigators to have a greater antihypertensive effect in some patients than chlorothiazide at equivalent dosage
- does not lower blood pressure in normotensives
- reduces dosage requirements for other antihypertensive agents, often with concomitant reduction in their distressing side effects
- smooths out blood pressure fluctuations



precautions: It is important that the dosage be adjusted as frequently as the needs of the individual patient demand. When HYDRODIURIL is used with a ganglion blocking agent, it is mandatory to reduce the dose of the latter by at least 50 per cent, immediately upon adding HYDRODIURIL to the regimen.

HYDRODIURIL has shown no adverse effects on renal function; for this reason it may be used with excellent results even in patients for whom the organomercurials are contraindicated because of renal damage.

The excretion of potassium is much lower than that of sodium or chloride and, as is the case with DIURIL®, the loss of potassium is clinically insignificant in the great majority of patients on normal diets. If indicated, potassium loss may easily be replaced by including potassium-rich foods in the diet (orange juice, bananas, etc.).

MSD

MERCK SHARP & DOHME
Division of Merck & Co., INC. Philadelphia 1, Pa.

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when it's skin deep

use XYLOCAINE *ointment*

. . . in nearly all external symptoms of *pain, itching* and *burning*, e.g., sunburn, minor burns, insect bites, abrasions, poison ivy and other contact dermatitis, hemorrhoids and inoperable anorectal conditions, and cracked nipples.

Xylocaine Ointment, a surface or topical anesthetic, gives fast, effective and long lasting relief. Its *water-soluble, nonstaining* base melts on contact with the skin, to assure immediate release of the anesthetic for fast action and it does not interfere with the healing processes.

ASTRA PHARMACEUTICAL PRODUCTS, INC., WORCESTER 6, MASS., U.S.A.

XYLOCAINE® OINTMENT

(brand of lidocaine*)

2.5% & 5%

SURFACE ANESTHETIC

SEE PDR

*U.S. Pat. No. 2,441,498 Made in U.S.A.

A SPOON LICKIN' GOOD SULFA!



it's delicious cherry-flavored for children

KYNEX®

ACETYL PEDIATRIC SUSPENSION

N¹ Acetyl Sulfamethoxypyridazine Lederle

just 1 dose a day . . . achieves rapid therapeutic levels . . . sustained for 24 hours . . . extremely low incidence of sensitivity reactions and renal complications . . . convenient, highly economical . . .

ALWAYS ACCEPTABLE . . . WHENEVER SULFAS ARE INDICATED

Recommended dosage: first-day dose is 1 teaspoonful (250 mg.) for each 20 lbs. body weight up to 80 lbs. For each day thereafter, ½ teaspoonful for each 20 lbs. For 80 lbs. and over, use adult dosage of 4 teaspoonfuls (1.0 Gm.) initially, and 2 teaspoonfuls (0.5 Gm.) daily thereafter. Administer immediately after a meal.

Supplied: Each teaspoonful (5 cc.) contains 250 mg. of sulfamethoxypyridazine activity. Bottles of 4 and 16 fl. oz.

Lederle LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

RESEARCH:

key to Kent's popularity

In 1958, Kent made the greatest gain in popularity ever recorded by any filter cigarette in any year—a sales increase of 20-billion cigarettes.

Behind this popularity is a story of months and years of research, perfecting the remarkable combination of filter action and flavor found in today's Kent cigarette. In developing Kent, Lorillard research scientists recognized that smokers wanted, on the one hand, a really satisfying taste; on the other, reduced tars and nicotine. In addition, smokers demanded a free and easy draw.

These, then, were the objectives. The first scientific breakthrough in the project was the development of the exclusive Micronite filter, patented by Lorillard. This filter was created because of newly-discovered principles in the field of filtration, which have been previously described in these pages.

Though this filter satisfied everyone on its ability to reduce tars and nicotine to the lowest level among the largest selling brands, there was still work to be done in the areas of taste and draw. After additional months of research, a new tobacco blend was developed which delivered rich taste *after* the smoke had passed through the filter. Next in the series of laboratory triumphs was a method of improving the draw to compare with the most free-drawing of all filter brands.

The rest of the Kent story is a legend in the tobacco industry. Outside, independent research studies confirmed the fact that Kent had achieved its objectives. Smokers responded. In fact, during the past year, more smokers changed to Kent than to any other cigarette in America.



A Product of P. Lorillard Company—First with the finest cigarettes—through Lorillard Research!

Uneventful Recovery



the pattern of

GLUCOSAMINE-POTENTIATED TETRACYCLINE *therapy*

COSA-TETRACYN*

capsules
125 mg., 250 mg.

oral suspension
orange flavored, 2 oz. bottle, 125 mg. per teaspoonful (5 cc.)

pediatric drops
orange flavored, 10 cc. bottle (with calibrated dropper), 5 mg. per drop (100 mg. per cc.)

Note: Rapid and high initial antibiotic blood levels are an important factor in uneventful recoveries. Glucosamine potentiation provides the fastest, highest tetracycline levels available with oral therapy. Bibliography and professional information booklet available on request.

Pfizer *Science for the world's well-being*

PFIZER LABORATORIES
Division, Chas. Pfizer & Co., Inc.
Brooklyn 6, N. Y.

*Trademark for glucosamine-potentiated tetra cycline



in Acne

Routine cleansing with pHisoHex augments standard acne therapy. "No patient failed to improve."[1] pHisoHex helps check the infection factor in acne. Used exclusively and frequently, it will keep the skin surface virtually sterile. Contains 3 per cent hexachlorophene.

pHisoHex®

(antibacterial detergent, nonalkaline, nonirritating, hypoallergenic)

tips the balance for superior results

Winthrop LABORATORIES
New York 18, N. Y.

1. Hodges, F.T.: GP 14:86, Nov., 1956.



LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York



To the relief of musculoskeletal pain, new MEDAPRIN* adds restoration of function

Analgesics offer temporary relief of musculoskeletal pain, but they merely *mask* pain rather than getting at its *cause*. New Medaprin, in addition to bringing about prompt subjective improvement, promotes the *restoration of normal function* by suppressing the inflammation that *causes* the pain.

Medaprin, Upjohn's new analgesic-steroid combination, contains aspirin plus Medrol,** the corticosteroid with *the best therapeutic ratio in the steroid field.*† Instead of suffering recurrent discomfort because of the "wearing off" of analgesics, the patient on Medaprin experiences a smooth, *extended* relief and more normal mobility.

Indications: Medaprin is indicated in mild-to-moderate rheumatic and musculoskeletal conditions, including rheumatoid arthritis, deltoid bursitis, low back pain, neuralgia, synovitis, fibromyositis, osteoarthritis, low back sprain, traumatic wrist, sciatica, and "tennis elbow."

Dosage: The recommended dosage is 1 tablet q.i.d. The usual cautions and contraindications of corticotherapy should be observed.

Supplied: In bottles of 100 and 500.

Formula: Each Medaprin tablet contains

- 300 mg. acetylsalicylic acid, for prompt relief of pain
- 1 mg. Medrol, to suppress the causative inflammation
- 200 mg. calcium carbonate, as buffer

*TRADEMARK **TRADEMARK, REG. U. S. PAT. OFF.—METHYLPREDNISOLONE, UPJOHN
†RATIO OF DESIRED EFFECTS TO UNDESIRED EFFECTS

The Upjohn Company, Kalamazoo, Michigan

Upjohn

relieve the tension



—and control its G.I. sequelae



Patient A.S., age 53.
Intermittent crises of severe pain over 2 year period; hospital management with Sippy regimen provided relief of symptoms; however, symptoms recurred after each sojourn.



PATHIBAMATE *(Tabs. j t.i.d. and H.S.)*; prompt relief of symptoms. Radiograph (21 days later) confirms healing of minute lesser curvature gastric ulcer crater.

predictable results in the control of tension and G.I. trauma

Pathibamate®

Meprobamate with PATHILON® Tridihexethyl Chloride* LEDERLE

Used prophylactically in anticipation of periods of emotional stress, or therapeutically to relieve tension and curb hypermotility and hypersecretion, PATHIBAMATE is particularly well-formulated for the control of gastrointestinal disorders.

PATHIBAMATE combines Meprobamate (400 mg.) — the noted tranquilizer-muscle relaxant widely accepted for safe management of tension and anxiety states — and PATHILON (25 mg.) — an extremely well-tolerated anticholinergic, long noted for prompt symptomatic relief based on peripheral atropine-like action with few side effects.

Indications:
Duodenal ulcer, gastric ulcer, intestinal colic, spastic and irritable colon, ileitis, esophageal spasm, anxiety neurosis with gastrointestinal symptoms, gastric hypermotility.

Supplied:
Bottles of 100 and 1,000. Each tablet (yellow, ½-scored) contains Meprobamate, 400 mg.; PATHILON Tridihexethyl Chloride, 25 mg.

Administration and Dosage:
1 tablet three times a day at mealtimes and 2 tablets at bedtime. Adjust dosage to patient response. Contraindicated in glaucoma, pyloric obstruction, and obstruction of the urinary bladder neck.

Also Available: PATHILON in four forms — *Tablets* of 25 mg., plain (pink) or with *phenobarbital*, 15 mg. (blue);
Parenteral — 10 mg./cc. — 1 cc. ampuls;
Pediatric Drops — 5 mg./cc. — dropper vials of 15 cc.

*PATHILON is now offered as tridihexethyl chloride instead of the iodide, an advantage permitting wider use, since the latter could interfere with the results of certain thyroid function tests.

Lederle LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York



Bed of Digitalis purpurea
with Campanula (Canterbury Bells) in foreground

Not far from here are manufactured
from the powdered leaf
Pil. Digitalis (Davies, Rose)
0.1 Gram (1½ grains) or 1 U.S.P. Digitalis Unit.
They are physiologically standardized,
with an expiration date on each package.
Being Digitalis in its completeness,
this preparation comprises the
entire therapeutic value of the drug.
It provides the physician with a safe and effective
means of digitalizing the cardiac patient
and of maintaining the necessary saturation.
Security lies in prescribing the
"original bottle of 35 pills, Davies, Rose."

Clinical samples and literature sent to physicians on request

Davies, Rose & Co., Ltd. Boston 18, Mass.

Antivert® stops



VERTIGO

VERTIGO

Each ANTIVERT *tablet contains:*

Meclizine (12.5 mg.)—most effective antihistaminic to control vestibular dysfunction.[1]

Nicotinic acid (50 mg.)—the drug of choice for prompt vasodilation.[2,3]

Advantage of "dual therapy" confirmed:

Menger found ANTIVERT "improved or controlled symptoms in virtually 90% of vertiginous patients."[2]

Indications: Meniere's syndrome, arteriosclerotic vertigo, labyrinthitis, and streptomycin toxicity. Also effective in recurrent headache, including migraine.

Dosage: one tablet before each meal.

Supplied: bottles of 100 blue-and-white scored tablets. Prescription only.

References: 1. Charles, C. M.: Geriatrics 2:110 (March) 1956. 2. Menger, H. C.: Clin. Med. *4*:313 (March) 1957. 3. Shuster, B. H.: M. Clin. North America *40*:1787 (Nov.) 1956.

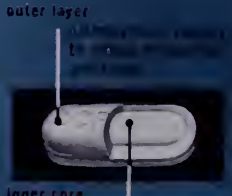
℞ PFERIC

Division, Chas. Pfizer & Co., Inc.
New York 17, N. Y.
Science for the world's well-being

For those patients who complain

carries your patients through the middle of the night





Each Nebralin time release tablet contains

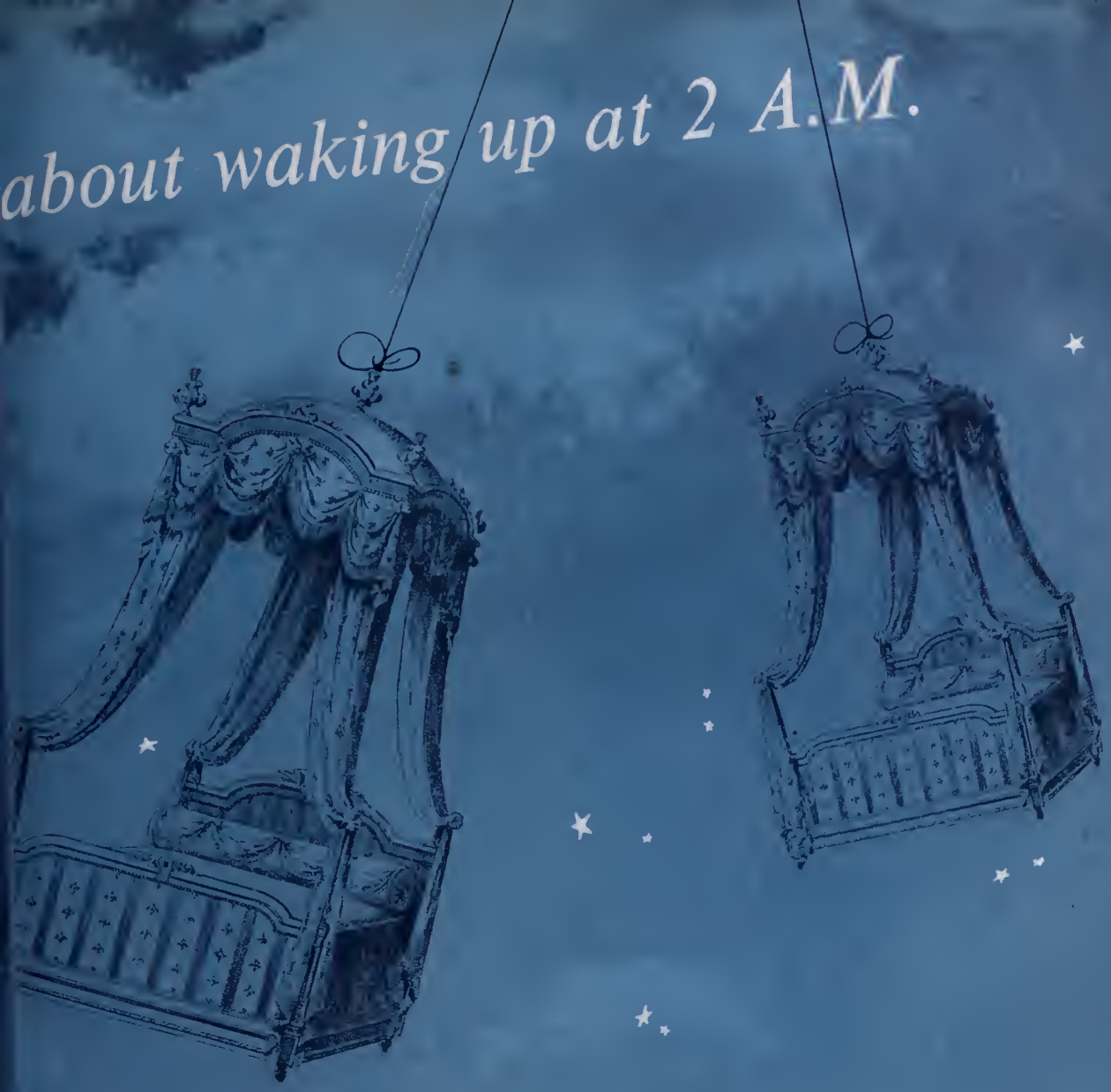
Dorsital
Warning: May be habit forming

Mephenesin
*Dorsey brand of

CAUTION: Federal law prohibits dispensing without prescription

Dosage: One or two tablets at bedtime before retiring

about waking up at 2 A.M.



nebralin®

timed-release tablet

timed-release action for a full night's sleep

NEBRALIN is designed to duplicate the normal sleep pattern. It encourages muscular relaxation and induces sustained, relaxed sleep by the release of Dorsital and mephenesin in a timed-release tablet. Rapid-acting mephenesin quickly relaxes skeletal muscles to overcome "fatigue-tension" and conditions the body for sleep. Dorsital provides CNS sedation to induce sound, relaxed sleep. The initial and sustaining dosages are designed to keep the amount of barbiturate to be inactivated at any one time at a low level tapering toward morning. Evidence indicates that mephenesin is capable of producing sleep,[1] and when combined with a barbiturate enhances barbiturate action.[2,3] Moreover, the integrated action of the two components permits smaller dosages of each,[4] assuring your patients refreshed awakenings without "morning hangover."

1 Schlesinger, E. B.: Tr. New York Acad. Sc. 2:6, (Nov.) 1948.
2 Richards, R. K., and Taylor, J. D.: Anesthesiology 17:414, 1956.
3 Shideman, F. E.: Postgrad. Med. 24:207, 1958.
4 Berger, F.: Pharmacol. Rev. 1:243, 1949.

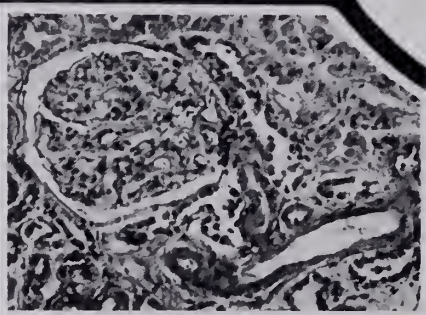
SMITH-DORSEY · a division of The Wander Company · Lincoln, Nebraska · Peterborough, Canada

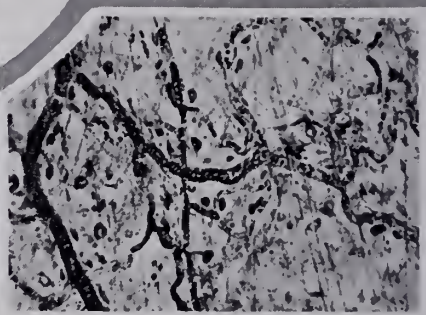
SQUIBB ANNOUNCES

NEW

RAUTRAX

RAUDIXIN
Squibb Standardized
Whole Root Rauwolfia Serpentina
FLUMETHIAZIDE
POTASSIUM CHLORIDE





A LOGICAL COMBINATION — RAUDIXIN ENHANCED
BY AN ENTIRELY NEW DIURETIC — FLUMETHIAZIDE

THUS SQUIBB OFFERS YOU GREATER LATITUDE IN SOLVING THE PROBLEM OF

HYPERTENSION

WITHOUT FEAR OF SIGNIFICANT POTASSIUM DEPLETION[1-3]

Rautrax combines Raudixin with flumethiazide — *the new, safe nonmercurial diuretic* — for control of all degrees of hypertension. Clinicians report it safely and rapidly eliminates excess extracellular sodium and water without potassium depletion.[1-3] Potassium loss is less than with any other nonmercurial diuretic.[1] Moreover, the inclusion of supplemental potassium chloride in Rautrax provides added protection against potassium and chloride depletion in the long-term management of hypertension.

Through this dependable diuretic action of flumethiazide, the clinical and subclinical edema — so often associated with cardiovascular disease — is rapidly brought under control.[2-5] And once Rautrax has brought the fluid balance within normal limits, continued administration does not appreciably alter the normal serum electrolyte pattern. Flumethiazide also potentiates the antihypertensive action of Raudixin. By this unique dual action, a lower dosage of each ingredient effectively maintains safe antihypertensive therapy.

Dosage: 2 to 6 tablets daily in divided doses initially; may be adjusted within range of 1 to 6 tablets daily in divided doses. **Note:** In hypertensive patients already on ganglionic blocking agents, veratrum and/or hydralazine, the addition of Rautrax necessitates an immediate dosage reduction of these agents by at least 50%. A similar reduction is necessary when these agents are added to the Rautrax regimen.
Supply: Capsule-shaped tablets supplying 50 mg. of Raudixin, 400 mg. of flumethiazide, and 400 mg. of potassium chloride, bottles of 100.
References: 1. Moyer, J. H., and others: Am. J. Cardiol., 3:113 (Jan.) 1959. • 2. Bodi, T., and others: To be published, Am. J. Cardiol., (April) 1959. • 3. Fuchs, M., and others: Monographs on Therapy, 4:43 (April) 1959. • 4. Montero, A. C.; Rochelle, J. B., III, and Ford, R. V.: To be published. • 5. Rochelle, J. B., III; Montero, A. C., and Ford, R. V.: To be published.

LITERATURE AVAILABLE ON REQUEST.

'RAUDIXIN®' AND 'RAUTRAX' ARE SQUIBB TRADEMARKS

SQUIBB — Squibb Quality — the Priceless Ingredient

The patient with gastrointestinal dysfunction often finds the printed page blurred like this, because of the side effects of some antispasmodics. He may be so disturbed that he abandons treatment. But you can provide safe, effective relief of pain and spasm without risk of blurred vision with...

Milpath®

®Miltown + *anticholinergic*

direct antispasmodic action plus control of anxiety and tension without blurred vision, dry mouth or loginess associated with barbiturates, belladonna and bromides.

FORMULA:
each scored tablet contains: meprobamate 400 mg., tridihexethyl chloride 25 mg., (formerly supplied as the iodide).

DOSAGE:
1 tablet t.i.d. with meals and 2 tablets at bedtime.

WALLACE LABORATORIES *New Brunswick, N. J.*

B. I. D.

ULCER CONTROL

all day

NEW

DARICON*

oxyphencyclimine hydrochloride

TABLETS

all night

patient comfort

Natural Prolonged Action–The action of DARICON, a more potent and better tolerated anticholinergic, is consistently prolonged because it has a unique chemical structure and is not dependent on "mechanical" means (e.g., special coating, adsorption on ion-exchange resin).

In addition to peptic ulcer, DARICON is also indicated for other gastrointestinal disorders characterized by hypersecretion, hypermotility and spasm (e.g., functional bowel syndrome, chronic nonspecific ulcerative colitis and biliary tract disease).

Dosage: 10 mg. b.i.d. (morning and evening). Supply: Tablets, 10 mg., white, scored. Bottles of 60 and 500.

*Trademark

EVEN REFRACTORY CASES RESPOND

Pfizer *Science for the world's well-being*

PFIZER LABORATORIES

Division, Chas. Pfizer & Co., Inc.

Brooklyn 6, N. Y.

might Colace have prevented this?



As Dennison[1] reported, "*It is our considered opinion that the relief from straining at the stool is, in many instances, life-saving.*" *And, further, "In the handling of bowel problems in cardiac patients, the properties of dioctyl sodium sulfosuccinate closely approach those required of an ideal agent."*

Colace®

Dioctyl sodium sulfosuccinate, Mead Johnson

prevents hard, difficult-to-pass stools . . . without laxative action.

available in 3 convenient dosage forms:

capsules (50 and 100 mg.) . . . for adults and older children
syrup . . . for children and adults
liquid (drops) . . . for infants and children

Mead Johnson
Symbol of service in medicine

1. Dennison, A.D., Jr.: Am. J. Cardiol. 400-403 (March) 1958.

AC-259 M

HIGHLIGHTS FROM THE A.M.A. COUNCIL ON DRUGS

REPORT ON TRIAMCINOLONE

J.A.M.A. 169:257 (January 17) 1959.

"It [triamcinolone] has an anti-inflammatory potency greater than an equal amount of prednisolone; i.e., comparable suppressive effects may usually be achieved with lower doses of triamcinolone than with prednisolone."

"Triamcinolone lacks the sodium-retaining and edema-producing effects of most other glucocorticoids. During the first several days of administration, it may cause a loss of sodium from the body; an initial mild diuretic action is frequently observed, whether the patient is frankly edematous or not. This is in contrast to the definite sodium-retaining and fluid-retaining properties of cortisone and hydrocortisone and to a much lesser extent with prednisone and prednisolone."

"Except in exceedingly large doses, triamcinolone apparently has no consistent effect on potassium excretion. Hence, neither sodium restriction nor potassium supplementation is ordinarily required during therapy with this agent."

"As with other glucocorticoids, the long-term administration of triamcinolone results in definite catabolic effects, as indicated by impairment of carbohydrate utilization and negative protein and calcium balance. This catabolic effect, coupled with a lack of appetite stimulation which is apparently peculiar to triamcinolone, may produce weight loss that might be undesirable in some patients treated for long periods of time."

"...the voracious appetite, with weight gain and euphoria, characteristic of other steroids, is not seen with administration of triamcinolone."

"Triamcinolone has been used for the management of a wide variety of clinical conditions usually considered amenable to systemic steroid therapy. These have included rheumatoid arthritis and other collagen diseases, allergic and dermatological disorders, certain leukemias and malignant lymphomas, the nephrotic syndrome, pulmonary emphysema and fibrosis, acute bursitis, rheumatic fever, and certain blood dyscrasias. Although clinical experience with the drug in some of the foregoing conditions is not extensive, the many similarities in action between triamcinolone and other potent glucocorticoids would indicate a usefulness for triamcinolone akin to that of other agents of this class."

"There is some evidence that triamcinolone is more effective at a smaller dosage than are other steroids in controlling both the skin and joint lesions in psoriasis, whether or not complicated by arthropathy."

"Triamcinolone appears to compare favorably with other steroids for use in those situations in which edema and sodium retention have been complicating problems."

"It [triamcinolone] may also be the steroid of choice for patients in whom psychic stimulation, euphoria, voracious appetite, and weight gain should be avoided."

"...the drug [triamcinolone] does produce the other side effects and untoward reactions common to the glucocorticoids. At therapeutically equivalent doses, the frequency and severity of clinical manifestations of hyperadrenalism — rounding of the face, fat deposition, and hirsutism — are essentially the same. Likewise, there is little indication that the relative incidence of osteoporosis is materially decreased after the long-term use of the drug."

"Triamcinolone apparently does not cause the euphoria sometimes seen with other steroids, and the occurrence of mental depressions is uncommon."

"Current evidence suggests that the drug [triamcinolone] may not produce as high an incidence of peptic ulcer as do other steroids."

"Cutaneous erythema seems to be a side effect peculiar to triamcinolone."

"The usual contraindications and precautions of glucocorticoid therapy should be followed in the use of triamcinolone, keeping in mind that prolonged therapy with this drug will suppress the function of the patient's own adrenals by interfering with the pituitary-adrenal axis."

Aristocort®

Triamcinolone LEDERLE

Supplied: 1 mg. scored tablets (yellow)
2 mg. scored tablets (pink)
4 mg. scored tablets (white)

Lederle

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

For every topical indication, a Burroughs Wellcome 'SPORIN'...



OINTMENT: Tubes of ⅛ oz. and ½ oz. (with applicator tip) for ophthalmic or dermatologic application.

OTIC DROPS: Bottles of 5 cc. with sterile dropper.



OINTMENT: Tubes of ½ and 1 oz. and tubes of ⅛ oz. with ophthalmic tip.

OPHTHALMIC SOLUTION: Bottles of 10 cc. with sterile dropper.

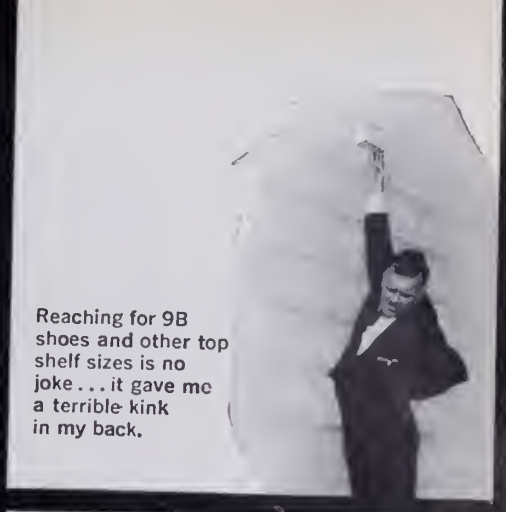
NEW { LOTION: Plastic squeeze bottles of 20 cc.
POWDER: Shaker-top bottles of 10 Gm.



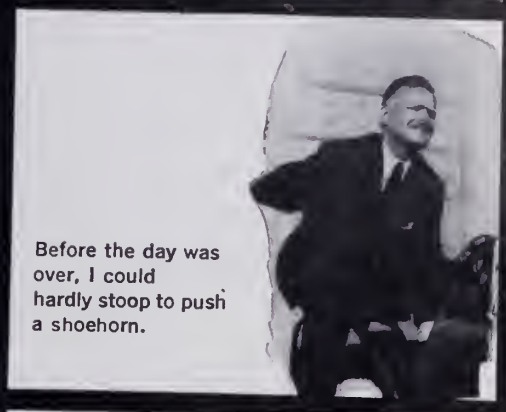
OINTMENT: Tubes of ½ oz., 1 oz. and ⅛ oz. (ophthalmic tip).

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.

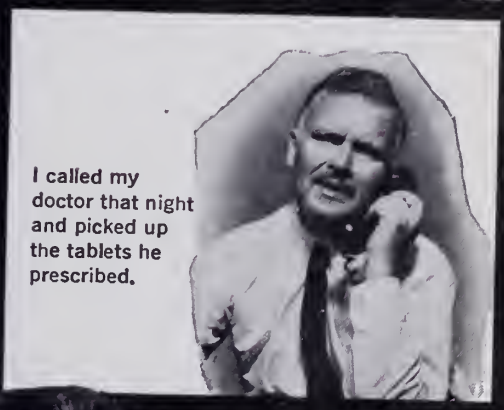
REACHING FOR THOSE 9B's NEARLY PUT ME ON THE SHELF...



Reaching for 9B shoes and other top shelf sizes is no joke . . . it gave me a terrible kink in my back.



Before the day was over, I could hardly stoop to push a shoehorn.



I called my doctor that night and picked up the tablets he prescribed.



The pain went away fast—in just 15 minutes—and I was back on the job the next morning! But not one 9B customer came in the whole day!

Percodan®-Demi & Percodan® *Tablets*

Salts of Dihydrohydroxycodeinone and Homatropine, plus APC

FOR PAIN

ACTS FASTER — usually within 5-15 minutes. **LASTS LONGER** — usually 6 hours or more. **MORE THOROUGH RELIEF** — permits uninterrupted sleep through the night. **RARELY CONSTIPATES** — excellent for chronic or bedridden patients. **VERSATILE** — new "demi" strength permits dosage flexibility to meet each patient's specific needs. PERCODAN-DEMI provides the PERCODAN formula with one-half the amount of salts of dihydrohydroxycodeinone and homatropine.

AVERAGE ADULT DOSE: 1 tablet every 6 hours. May be habit-forming. Federal law permits oral prescription.

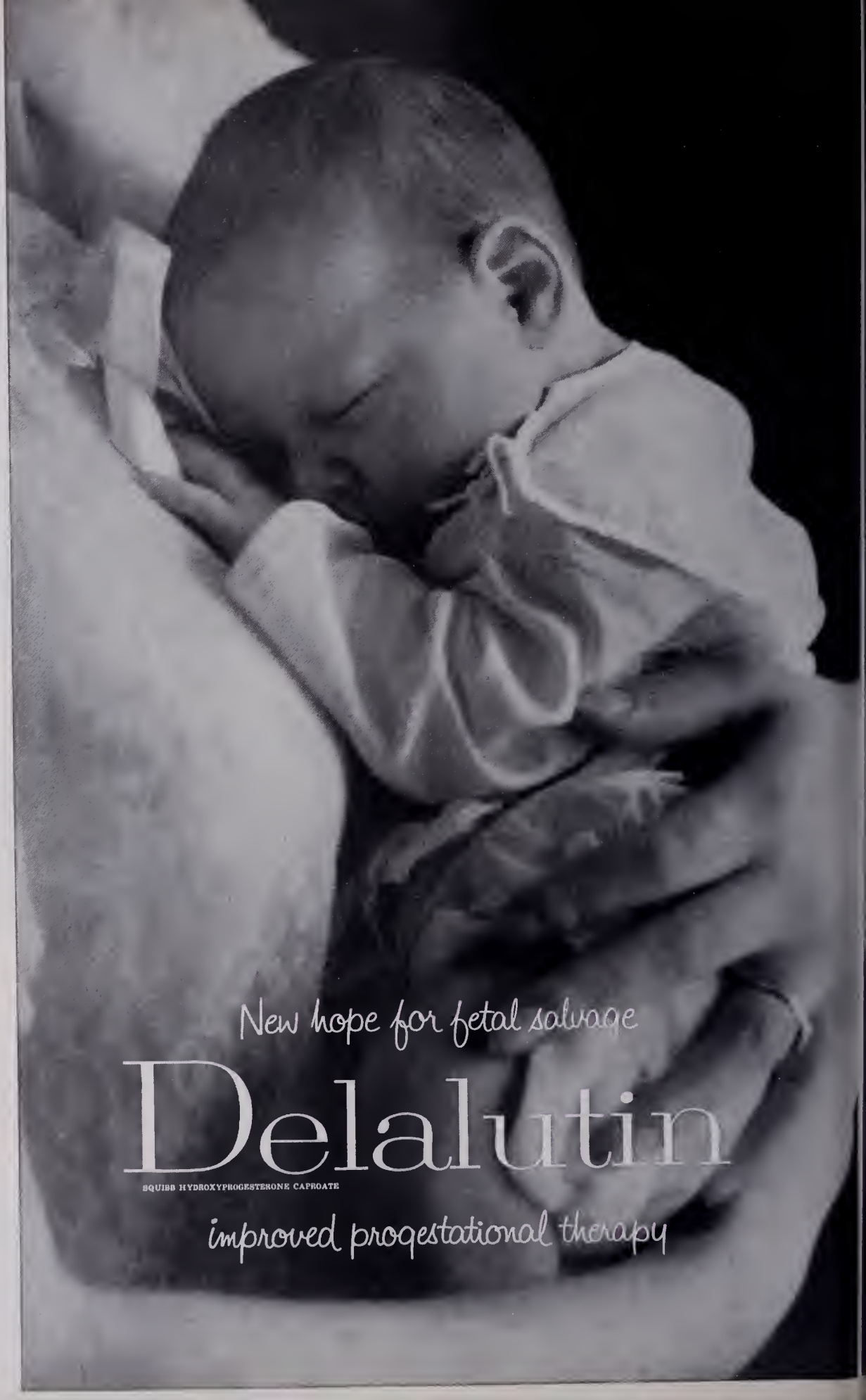
Each PERCODAN* Tablet contains 4.50 mg. dihydrohydroxycodeinone hydrochloride, 0.38 mg. dihydrohydroxycodeinone terephthalate, 0.38 mg. homatropine terephthalate, 224 mg. acetylsalicylic acid, 160 mg. phenacetin, and 32 mg. caffeine.

AND THE PAIN WENT AWAY FAST

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Literature? Write
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*U.S. Pat. 2,628,185


New hope for fetal salvage
Delalutin
SQUIBB HYDROXYPROGESTERONE CAPROATE
improved progestational therapy

The results of administering Delalutin before the 12th week of gestation to 82 women with habitual abortion were reported recently by Reifenstein.[1] Every patient had experienced at least three consecutive abortions immediately preceding the treated pregnancy. More than 68% of these women were delivered successfully and uneventfully following Delalutin therapy.

Boschann,[2] in a study of pregnancies with threatened abortion, found that:

37% of 73 pregnancies were carried to term without progestational therapy
64% of 42 pregnancies were salvaged by progesterone
83% of 73 pregnancies were salvaged by Delalutin

Eichner,[3] found that with Delalutin fetal salvage of infants below term weight (1000 to 2000 gm.) was significantly improved.
108 (76%) of 142 babies of this birth weight survived without progestational therapy.
16 (100%) of 16 babies of this birth weight survived with Delalutin therapy.
A comparison study was made of a group of repeated aborters treated with Delalutin, and a group with a similar history treated with bed rest and sedation.[4] Pregnancy salvage with Delalutin was twice that of the control group. Delalutin was found to be "highly active," well-tolerated and long-acting.

Delalutin offers these advantages over other progestational agents:

- longer-acting and more sustained therapy
- more effective in producing and maintaining a completely matured secretory endometrium
- no androgenic effect
- more concentrated solution requires injection of less vehicle
- unusually well-tolerated, even in large doses
- requires fewer injections
- low viscosity makes administration easier

DELALUTIN is also potent and safe therapy for: threatened abortion; postpartum after-pains; amenorrhea, primary and secondary; dysfunctional uterine bleeding not associated with genital malignancy; infertility with inadequate corpus luteum function; production of secretory endometrium and desquamation during estrogen therapy; premenstrual tension; dysmenorrhea; cyclomastopathy, mastodynia, adenosis and chronic cystic mastitis.

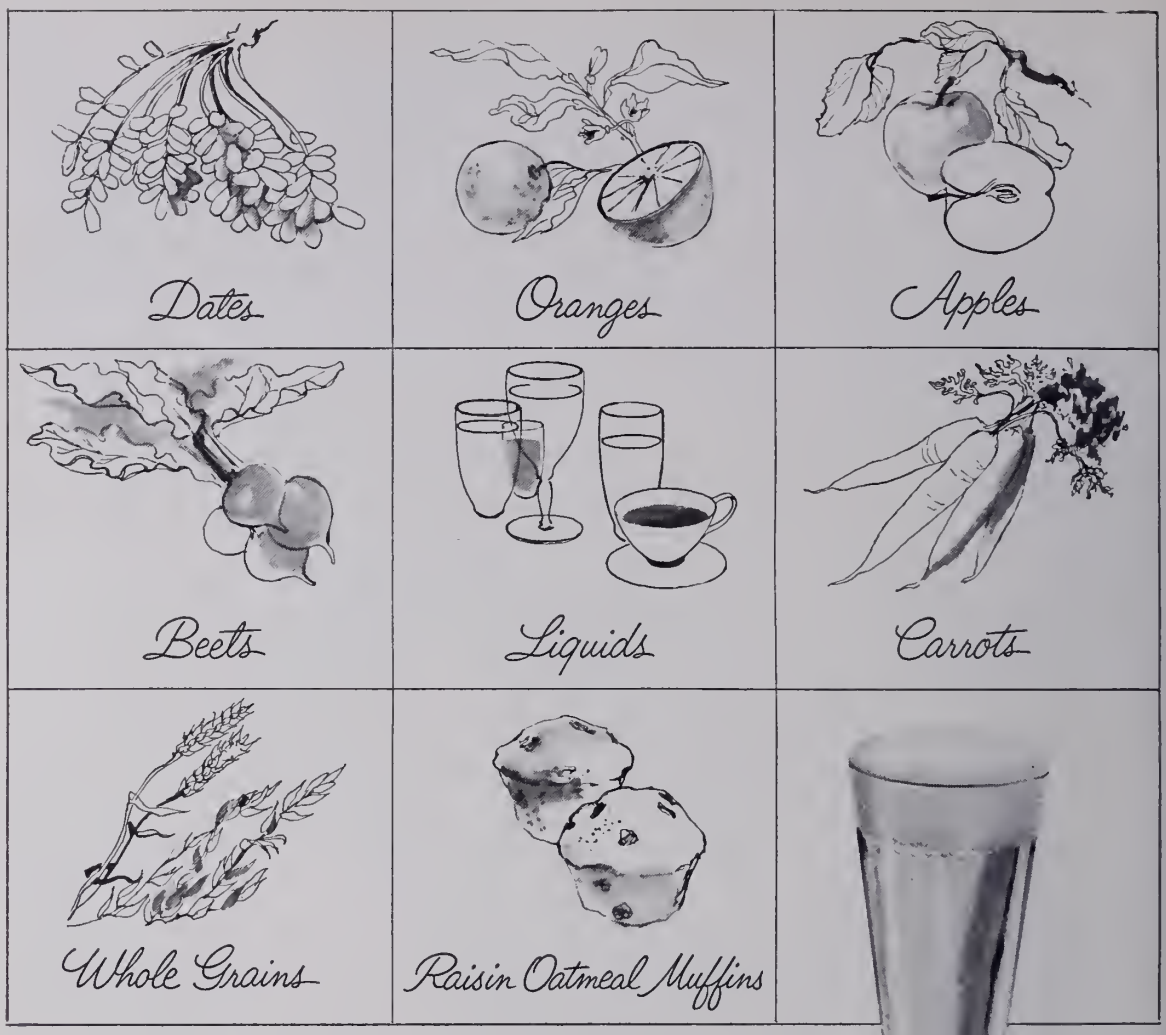
Administration and Dosage: Because of its low viscosity, Delalutin may be administered with a small gauge needle (deep intragluteal injection). Complete information on administration and dosage is supplied in the package insert.

Supply: Delalutin is available in vials of 2 and 10 cc., each cc. containing 125 mg. of hydroxyprogesterone caproate in sesame oil, and benzyl benzoate.

References: 1. Reifenstein, E. C., Jr.: *Annals N. Y. Acad. Sci.* 71:762 (July 30) 1958. 2. Boschann, H-W.: *ibid.*, p. 727. 3. Eichner, E.: *ibid.*, p. 787. 4. Hodgkinson, C. P.; Igna, E. J., and Bukeavich, A. P.: *Am. J. Obst. and Gyn.* 76:279, 1958.

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Bulk—rough or gentle—
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And may we suggest a glass of beer to increase the fluid intake?

The "Regularity" Diet

● Fruits and vegetables, raw or cooked, are high in cellulose. Oranges and apples, beets and carrots also provide pectin which absorbs more fluid to form especially smooth bulk.

Whole grains contain cellulose and Vitamin B Complex as well. Lots of liquid is important to make the cellulose bulky—about 8 to 10 glasses a day. And some of it might be beer.*

For appetite appeal your patient can team apples with dates. Raisins or fresh cranberries make a tasty surprise in oatmeal muffins.

When your patient makes these bulk-producing foods appetizing, he's likely to include them in his regular diet.

*An 8-oz. glass of beer supplies about ⅛ the minimum requirement of Niacin as well as smaller amounts of other B Complex vitamins. (Average of American beers)

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Beer—America's Beverage of Moderation

If you'd like reprints of this and 11 other dietary suggestions, please write United States Brewers Foundation, 535 Fifth Avenue, New York 17, N. Y.



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The reasons are fairly simple. Doctors like "Premarin," in the first place, because it really relieves the symptoms of the menopause. It doesn't just mask them — it replaces what the patient lacks — natural estrogen. Furthermore, if the patient is suffering from headache, insomnia, and arthritic-like symptoms due to estrogen deficiency, "Premarin" takes care of that, too.

"Premarin," conjugated estrogens (equine), is available as tablets and liquid, and also in combination with meprobamate or methyltestosterone.

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Source: Vazquez, S. G.: J. Internat. Coll. Surgeons *28*:394, 1957.

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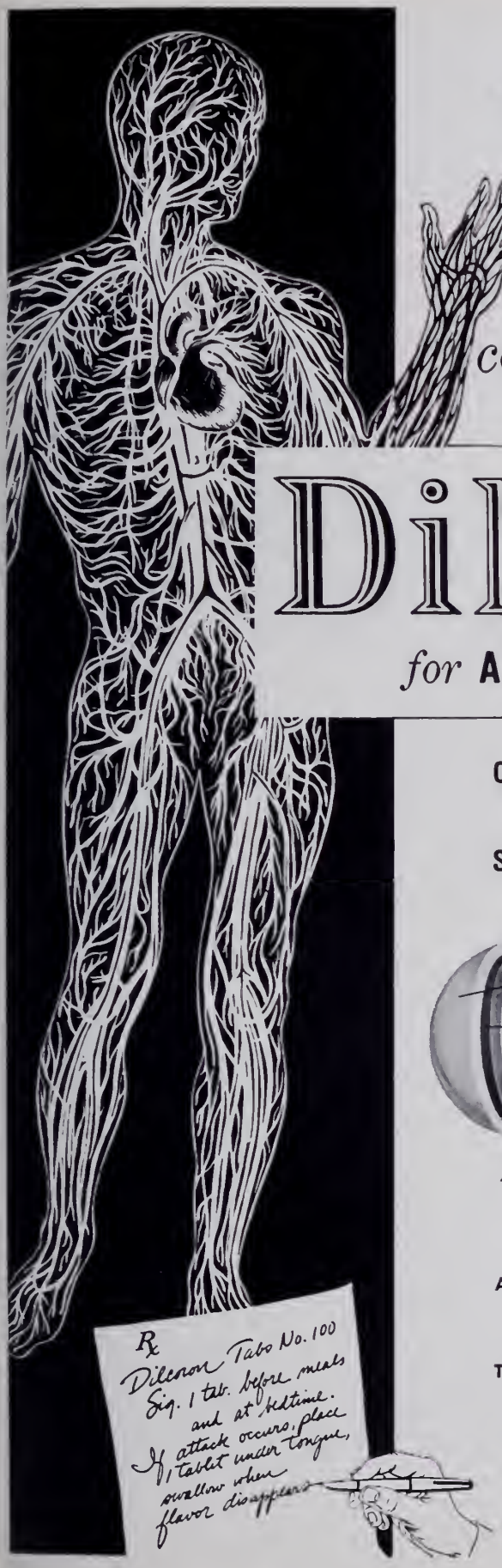
- reliable spasmolysis
- improved liver function

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For continuing prophylaxis patient swallows the entire Dilcoron tablet on an empty stomach.

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Average prophylactic dose:
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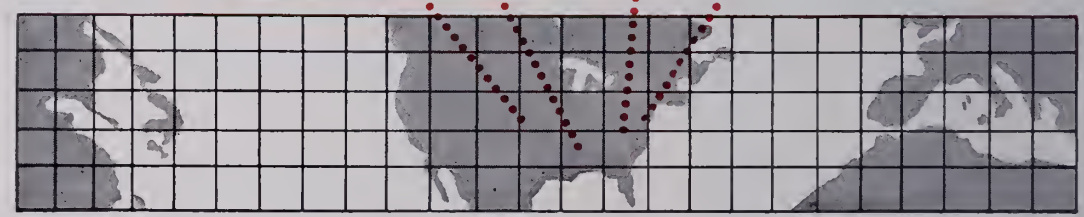
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For severe emotional disturbances	100 mg. tablets	one tablet t.i.d.
For adult psychiatric and emotional emergencies	Parenteral Solution	25-50 mg. (1-2 cc.) intramuscularly, 3-4 times daily, at 4-hour intervals. Dosage for children under 12 not established.

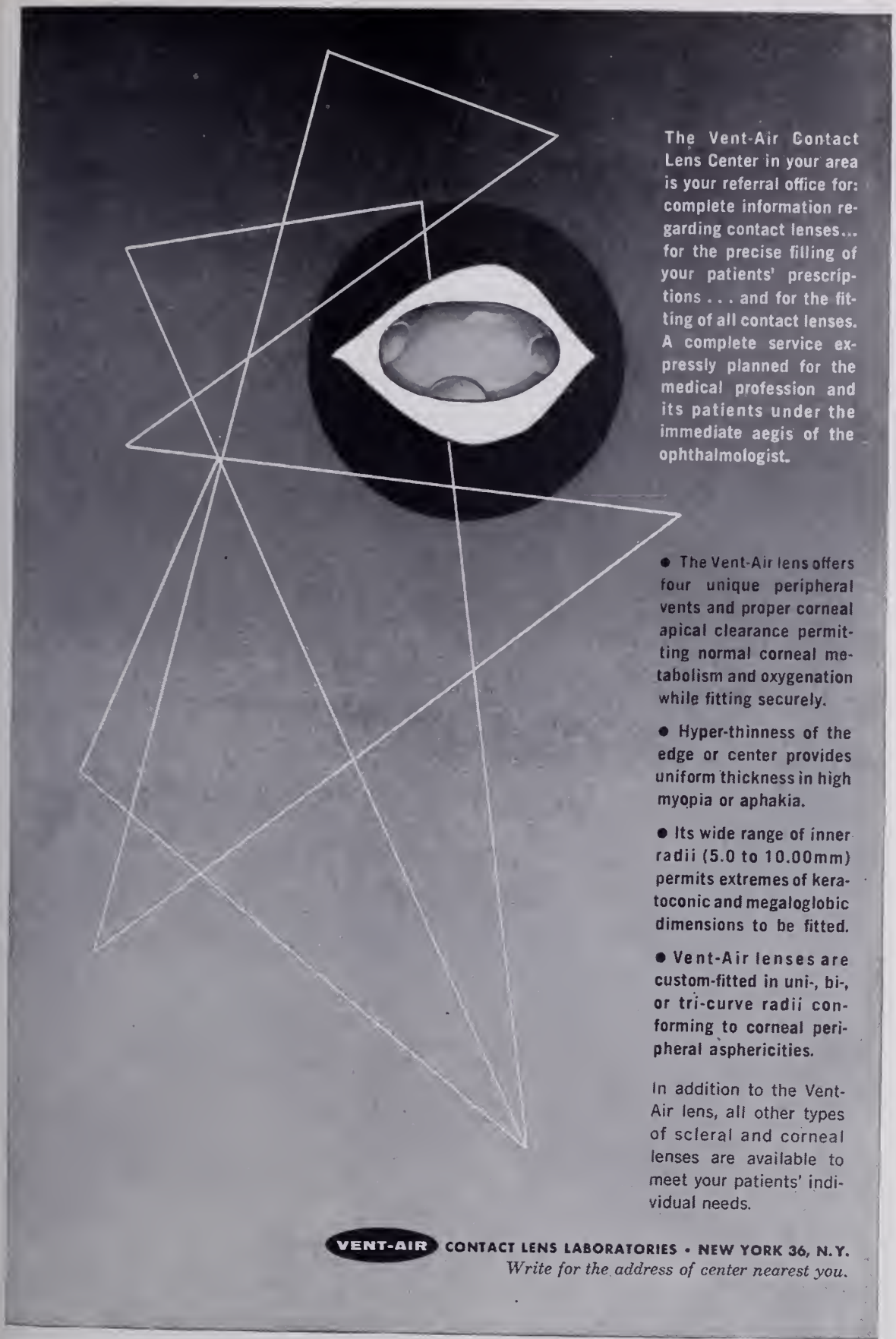
Supplied: Tablets, bottles of 100. Syrup, pint bottles. Parenteral Solution, 10 cc. multiple-dose vials.

References: 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America 5:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. 57:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. 58:1684 (May 15) 1958. 5. Coirault, M., et al.: Presse méd. 64:2239 (Dec. 26) 1956. 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

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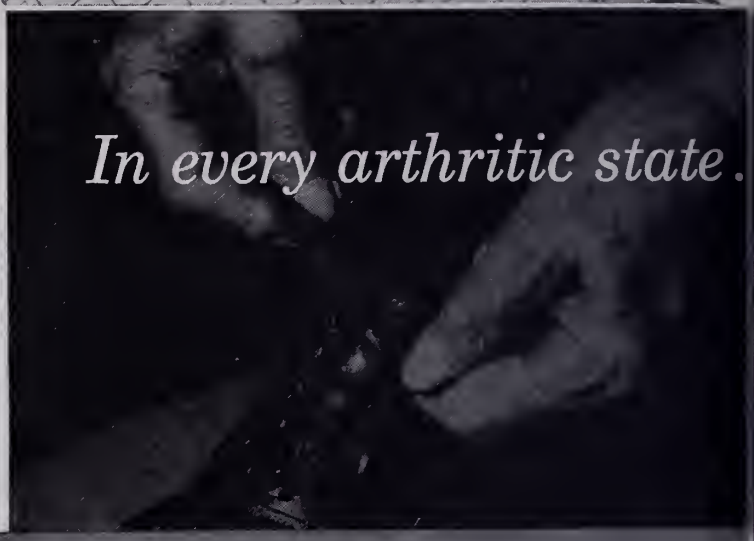
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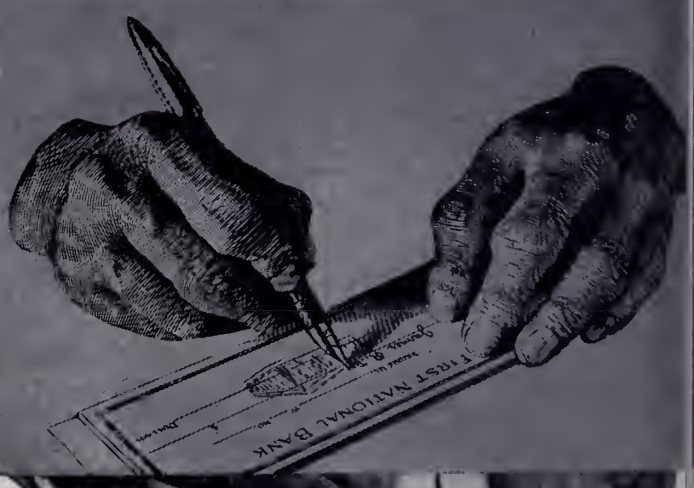
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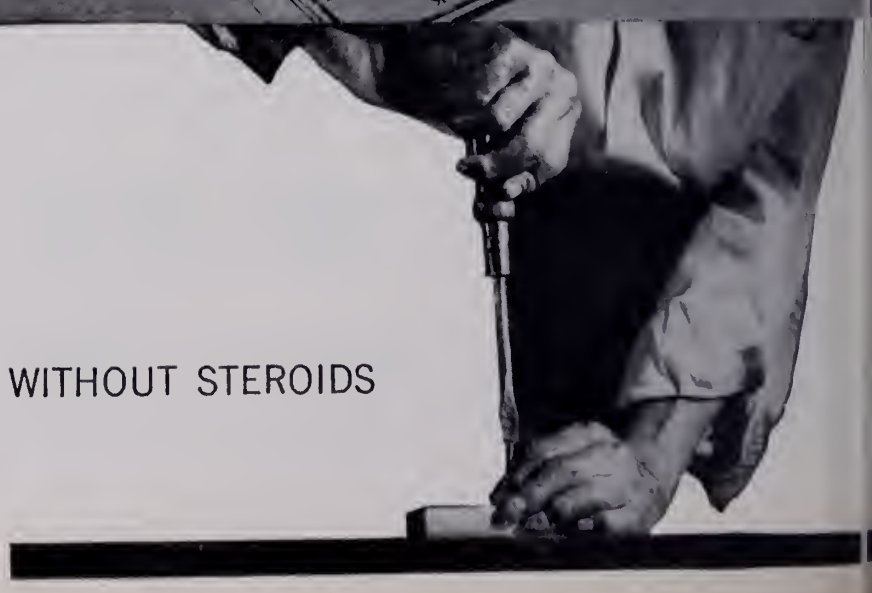
WITHOUT STEROIDS





WITHOUT STEROIDS





WITHOUT STEROIDS

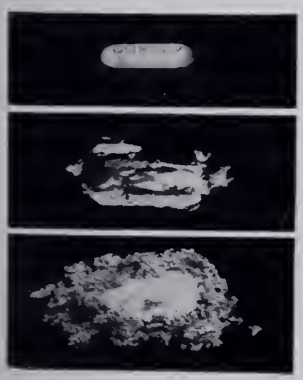
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Ascorbic acid ..... 50 mg.
Dried aluminum hydroxide gel....100 mg.

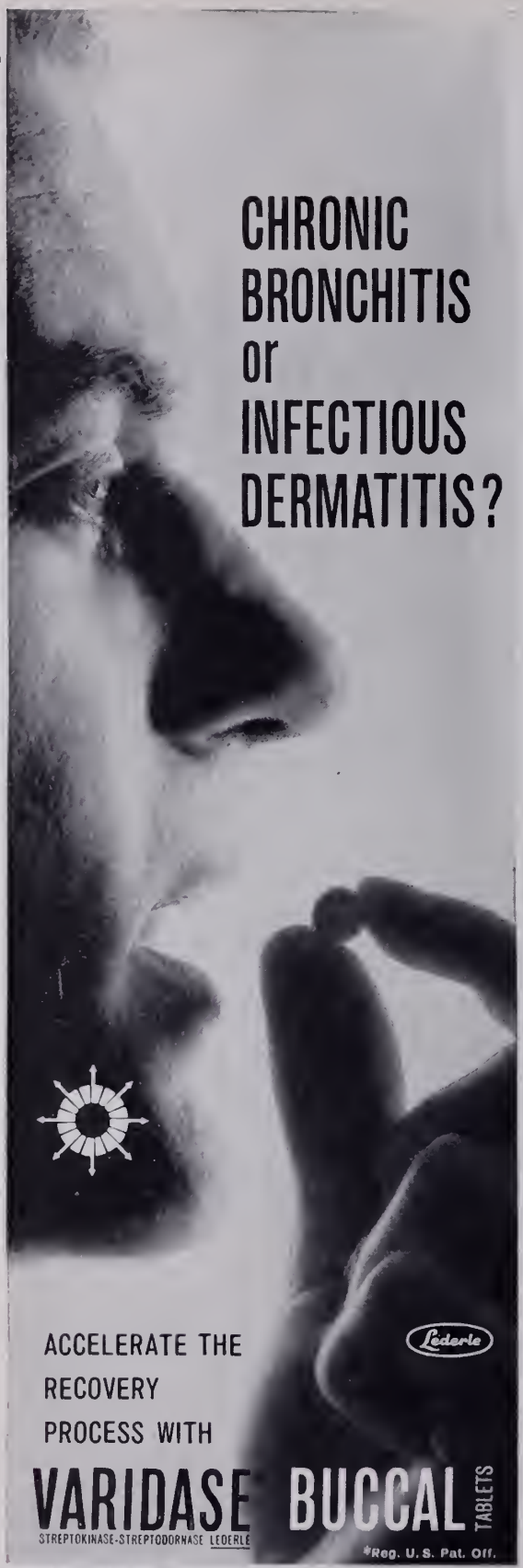
All Buffered Pabirin is sodium- and potassium-free.

Dosage: Two or three tablets 3 or 4 times daily.

References: 1. Hart, D.; Bagnall, A. W.; Bunim, J. J., and Polley, F. H.: Ninth International Congress on Rheumatic Diseases, Toronto, Ont. (June 25) 1957. 2. Report of Joint Committee, Medical Research Council & Nuffield Foundation, Treatment of Rheumatoid Arthritis, British Medical Journal (April 13) 1957. 3. Friend, D. G.: New England J. Med. 257:278 (Aug.) 1957.

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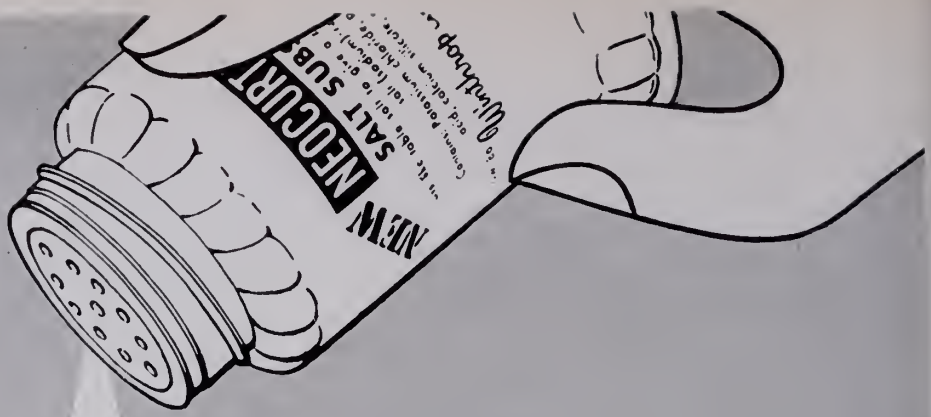
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[1]Sadove, Max S. and Schwartz, Lester: An Evaluation of Buffered Versus Nonbuffered Acetylsalicylic Acid, Postgraduate Medicine; 24:183, August, 1958.

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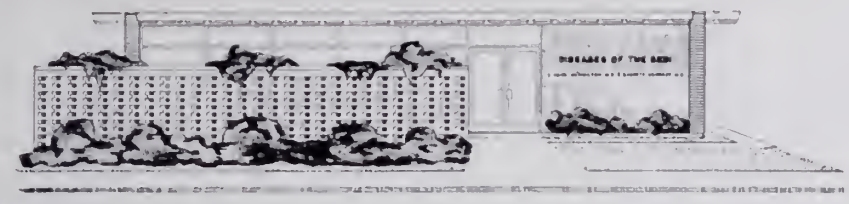
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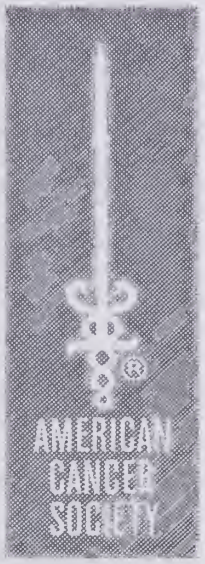
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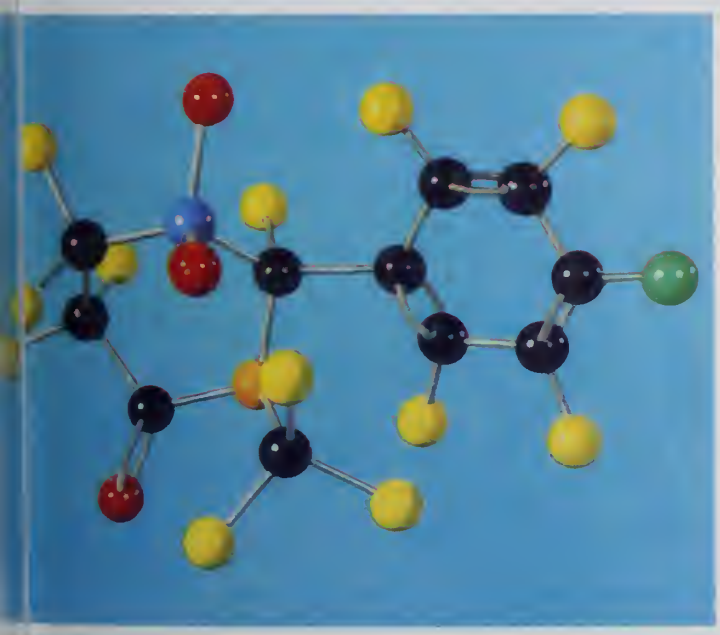
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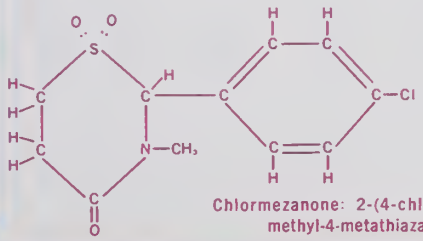
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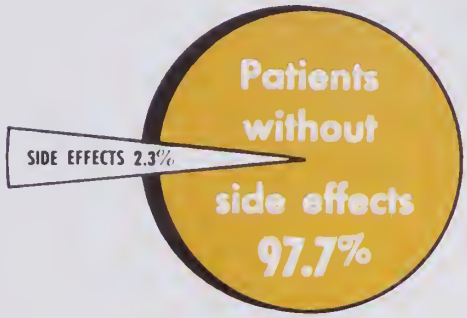
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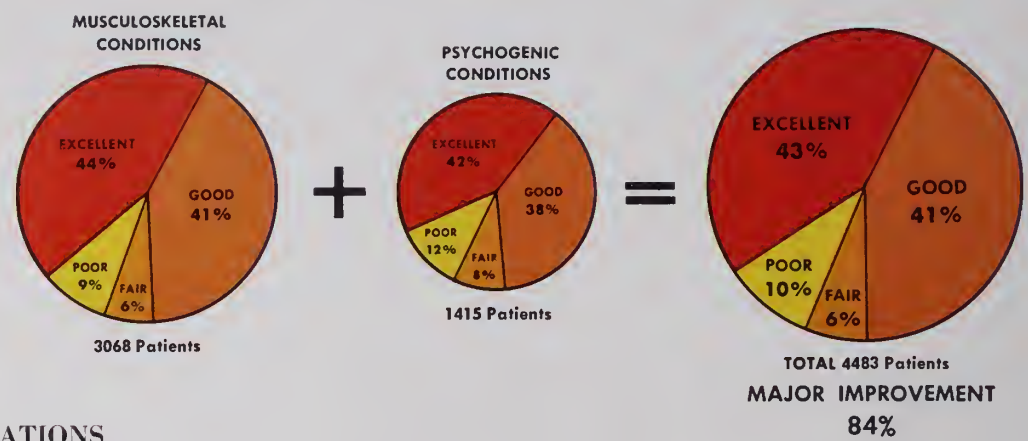
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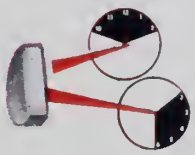
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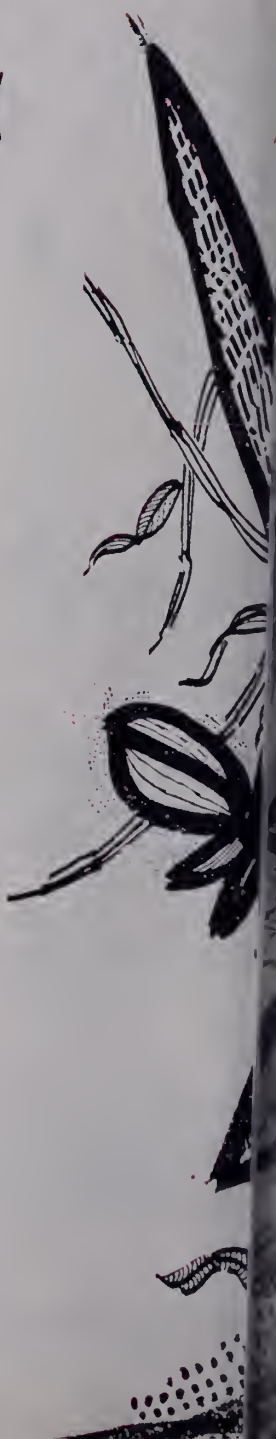
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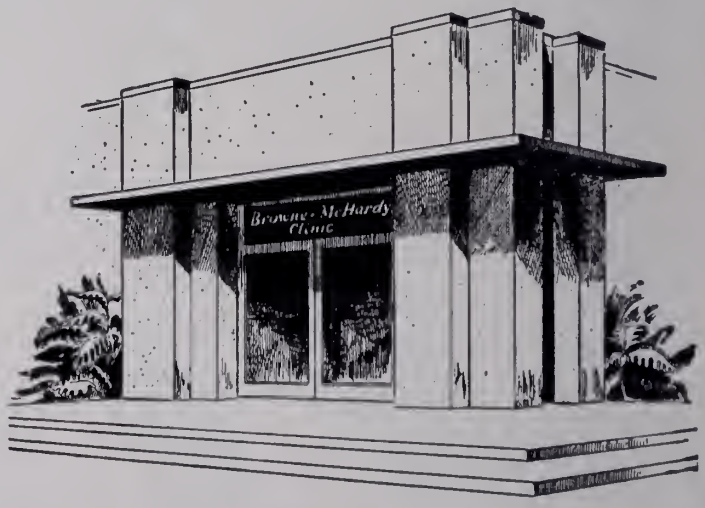
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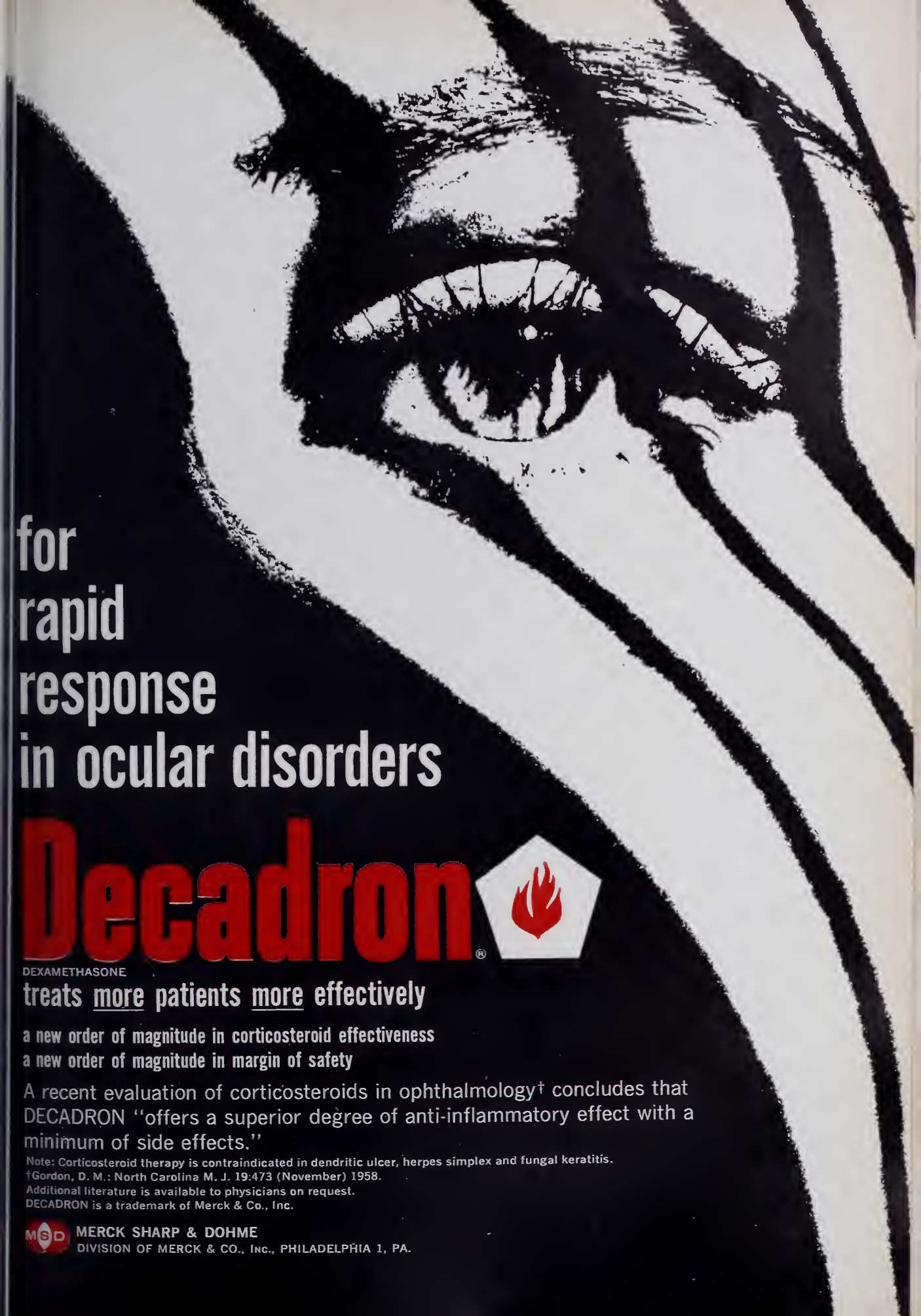
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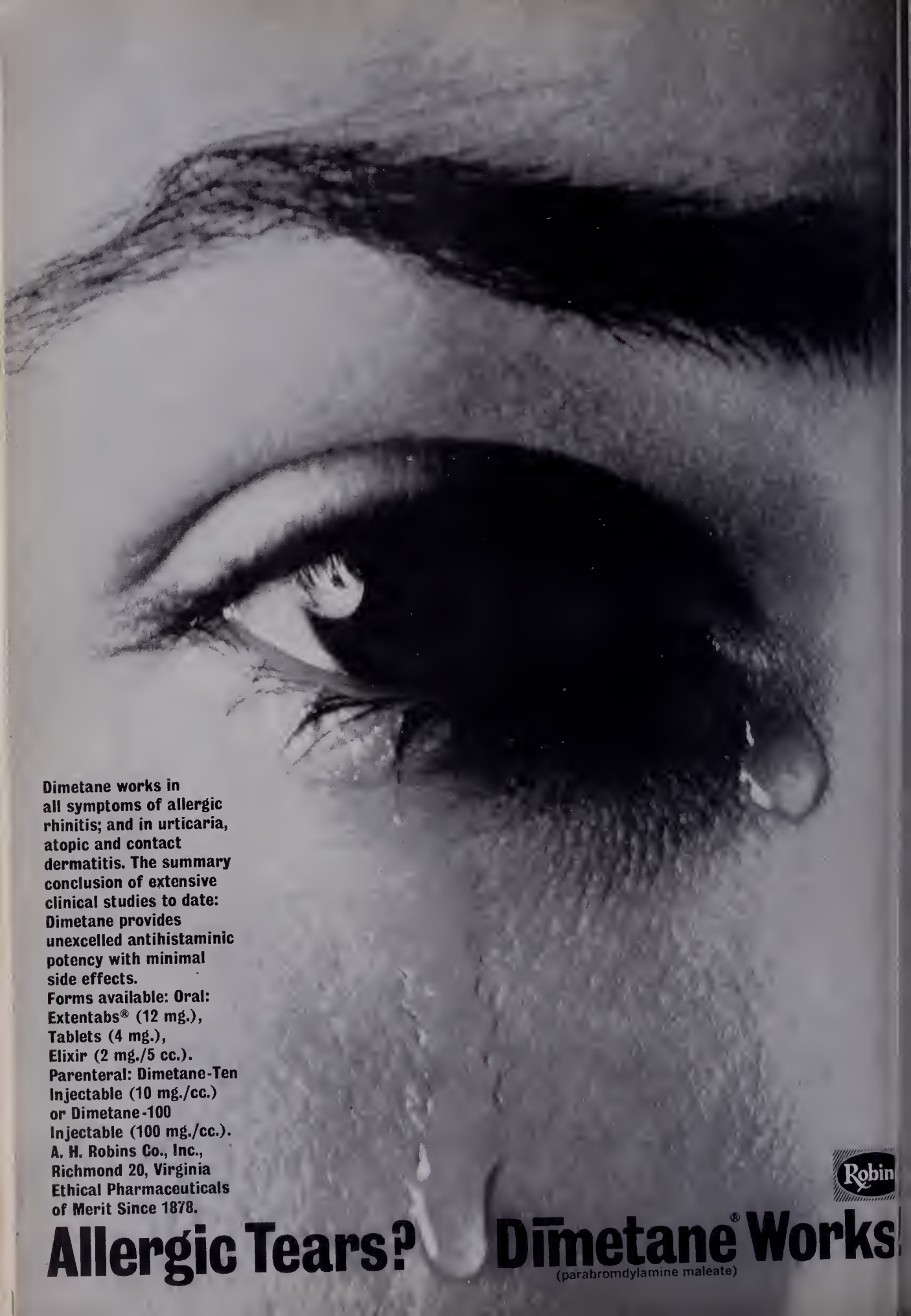
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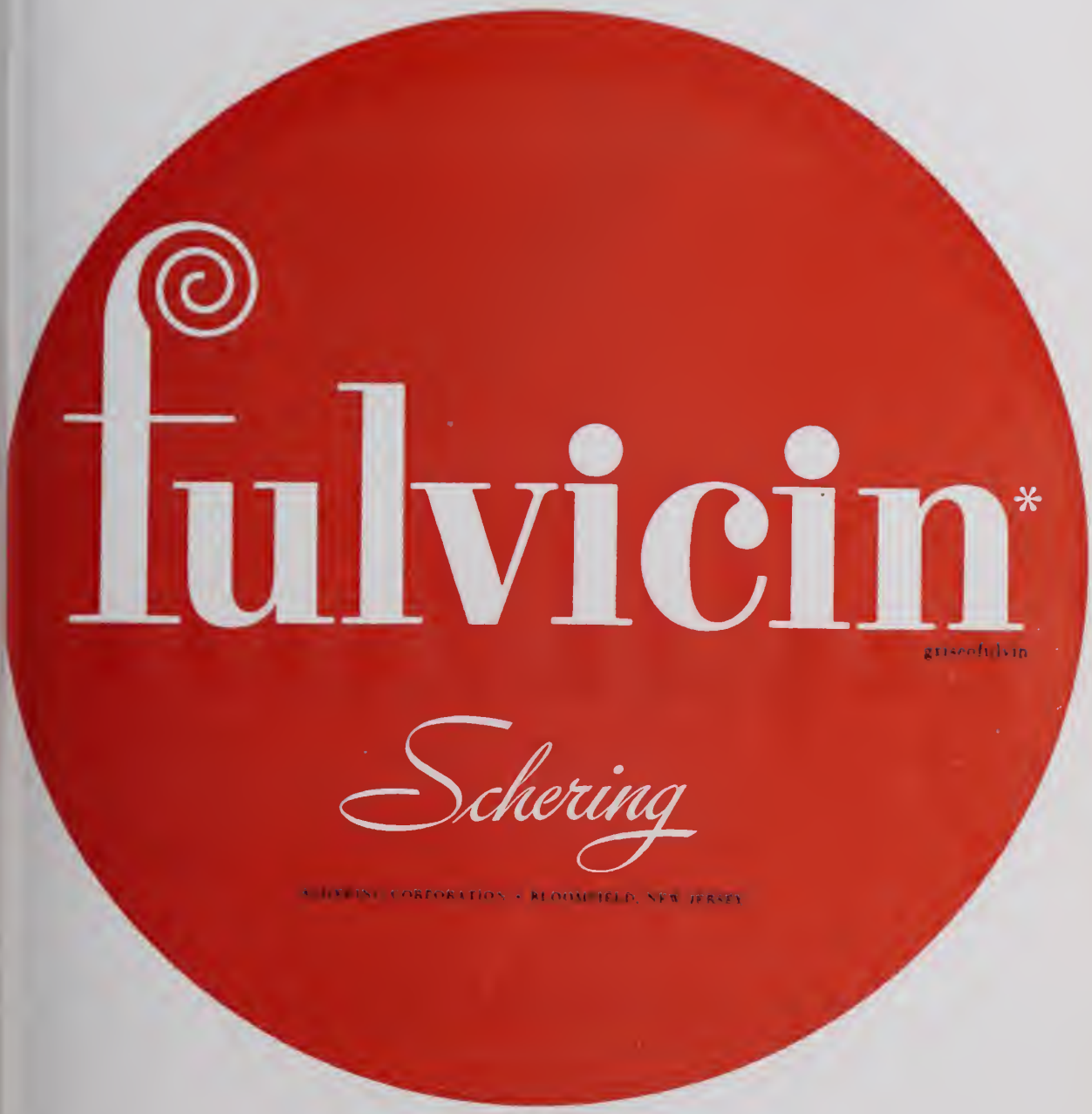
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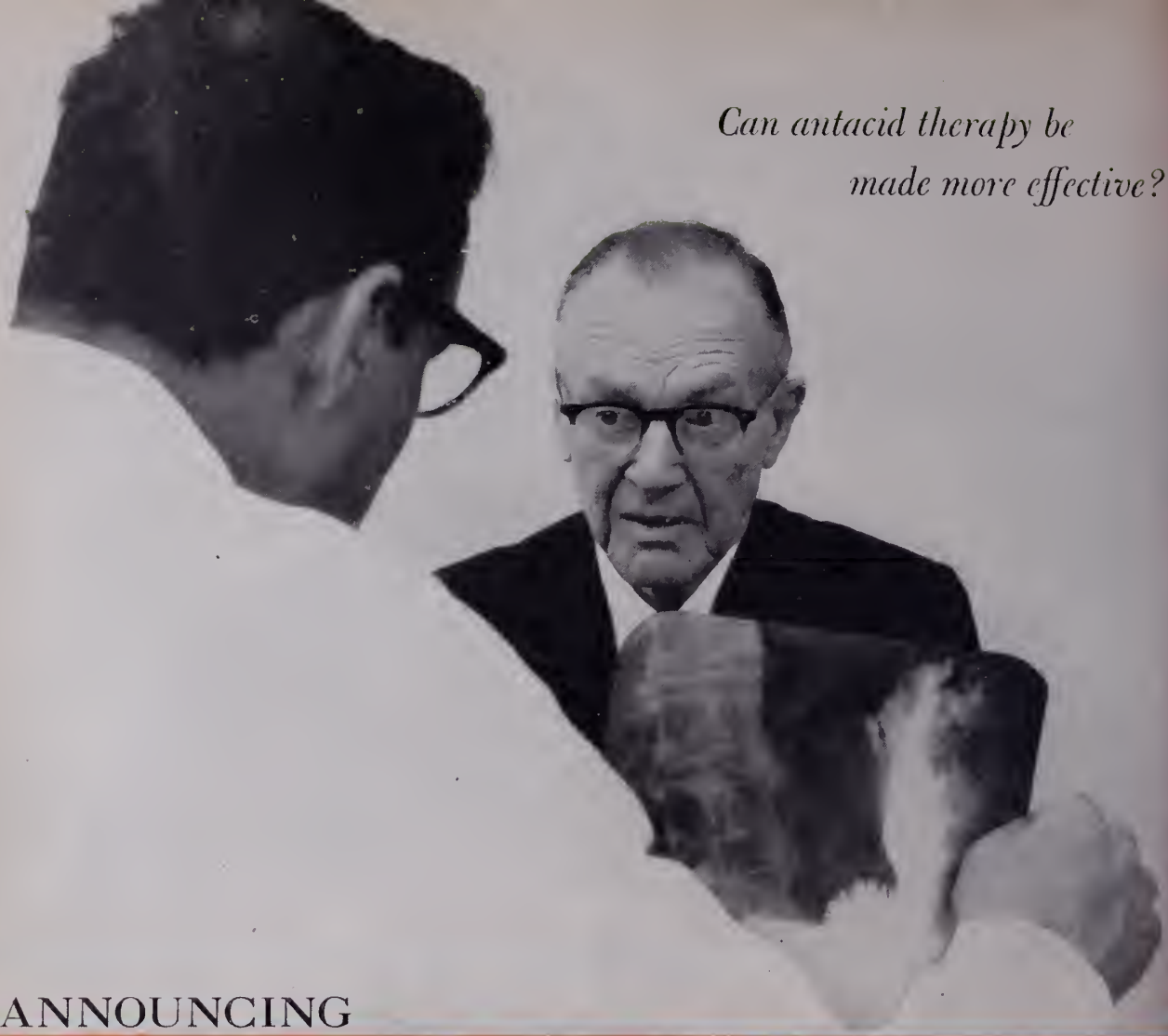
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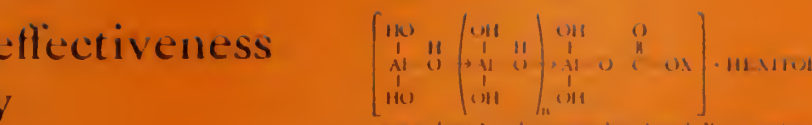
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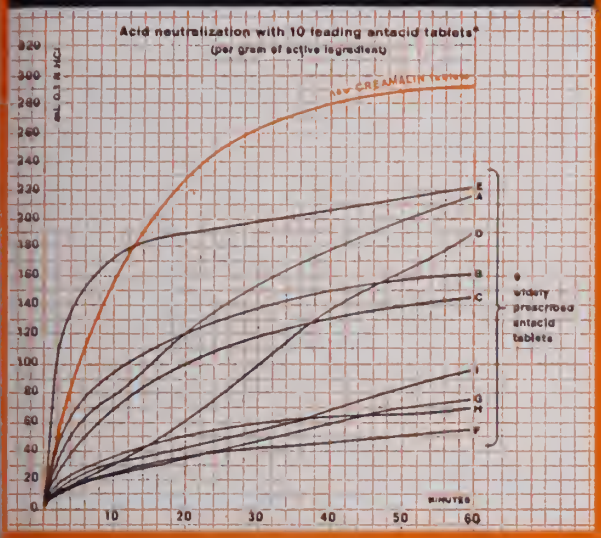
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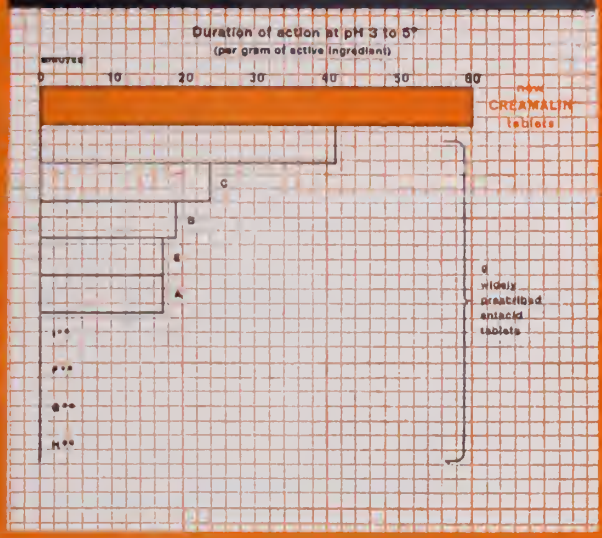
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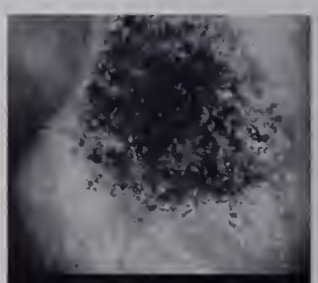
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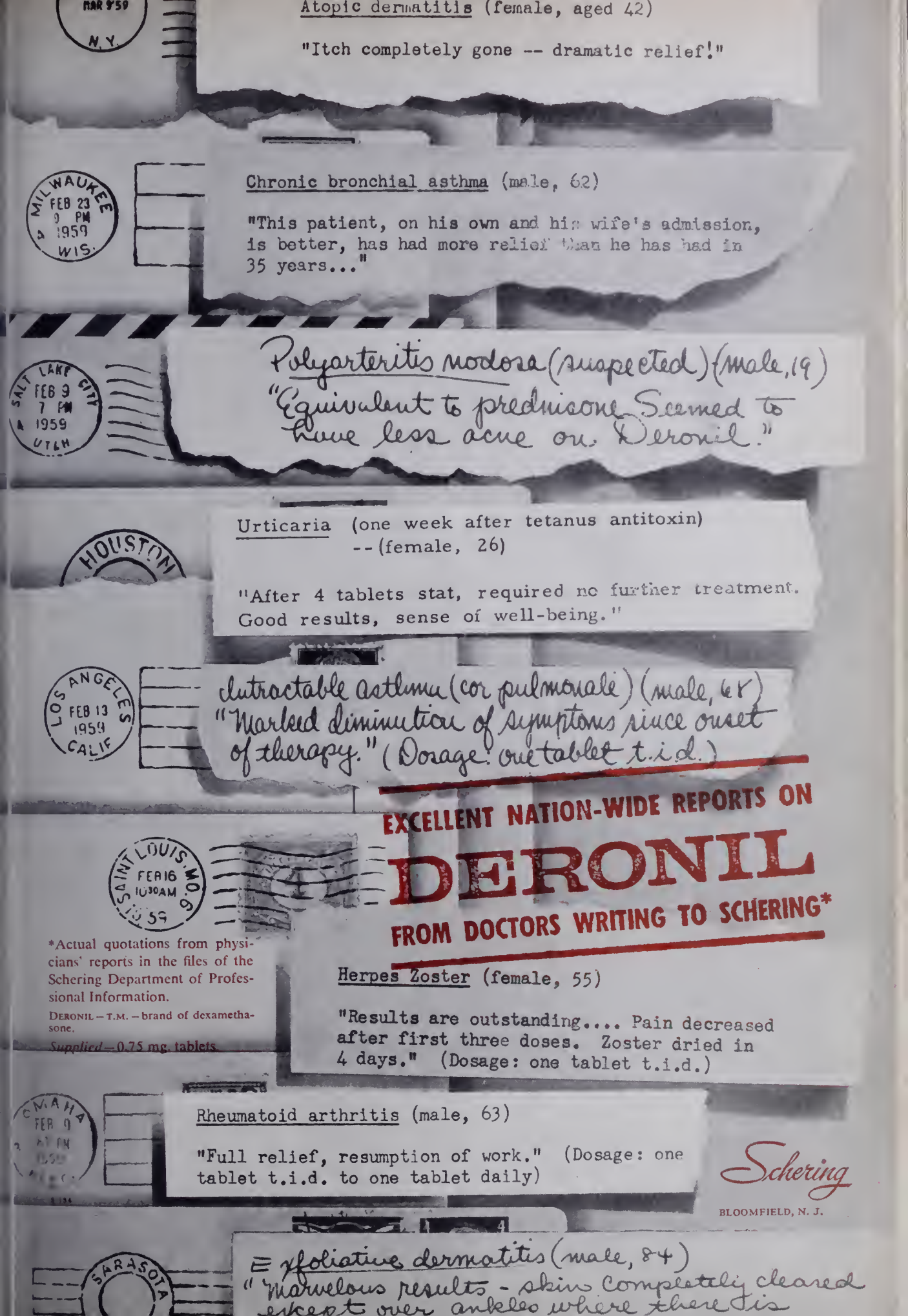
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The Present Controversy In the Treatment of Female Breast Carcinoma*

• The difficulties in choosing the most effective treatment in female breast carcinoma are great, and the present treatment leaves much to be desired in curative value.

PAUL D. ABRAMSON, M.D.†
Shreveport

DIFFERENCES of opinion as to what is the best treatment for carcinoma of the female breast are nothing new. For example, in 1865, Brodie [19] asked: "Under what circumstances is the operation for the removal of scirrhus tumor of the breast proper and under what circumstances is it improper?" In fact, there are divergent views in almost every aspect of the clinical management of this disease including whether or not aspiration biopsy should be used in its diagnosis, whether or not grading of the tumor is of prognostic value, whether or not prophylactic oophorectomy should be done, whether or not adrenalectomy or hypophysectomy is the better palliative modality. There are many other technical points or areas of valid differences of opinion. But the controversy that is of concern to us here is that regarding the best way to attempt to cure cancer of the breast: by classical radical mastectomy, by extended or extensive mastectomy or by simple mastectomy and x-ray.

Certainly our present results in treatment of breast cancer leave much to be desired. After Halsted [48, 49] and Willy Meyer [70, 71] established the technic of radical mastectomy in the early 1900's, it was found that if axillary nodes were free of disease, about 70 per cent five year "cures" could be anticipated; but if more than minimal axillary node involvement were present, this dropped to around 30 per cent. Despite earlier diagnosing, improvement in general surgical and anesthesia care, this figure has remained relatively constant to the present.

Difficulties In Evaluation of Treatment and Prognosis

Many factors make the evaluation of any type of treatment or its comparison with other methods difficult. One of these is the nature of the disease itself. The other has to do with statistical problems. Regarding the statistical problems: there

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† From Tumor Clinic, Confederate Memorial Medical Center, and Department of Surgery, North Louisiana Clinic.

is no uniform method of recording breast cases and their management. Controls are difficult to evaluate. Few series in different centers permit of comparison. Many extraneous factors such as additive or ablational hormonal therapy must modify the results. In fact, it is possible to find statistics to support or refute every divergent approach to the problem of breast cancer.

Even more important in making difficult the assessment of therapy in breast cancer is the nature of the disease itself. "The problem of dealing with the subject is not solely, or even principally, our lack of knowledge of the disease but rather the difficulty of analyzing and interpreting the vast amount of information dealing with the apparently innumerable variations on the behavior of breast cancer." [29]

What Ewing said thirty years ago [36] is still perfectly valid today: "I have drawn the impression that in dealing with mammary cancer, surgery meets with more peculiar difficulties and uncertainties than with almost any other form of the disease. The anatomical types are so numerous, the variations in clinical course so wide, the paths of dissemination so free and diverse, the difficulties of determining the actual conditions so complex, and the sacrifice of tissue so great, as to render impossible in a majority of cases a reasonably accurate adjustment of means to an end."

Numerous factors influence prognosis. These may be grouped as (1) uncontrollable and (2) controllable factors. The uncontrollable factors include: (a) age of patient, (b) inheritance, (c) location of tumor, (d) endocrine status of patient, (e) virulence of tumor, and (f) host resistance. The controllable factors are (a) delay in treatment and (b) type of treatment.[3]

These factors influencing prognosis may be expressed in a formula of no mathematical significance, but expressing in a general way the inter-relationship of the important factors (modified after Sugarbaker [103]):

$$P = \frac{T \times R}{B\,A}$$

Where "P" = Prognosis, "T" = Treatment factors of early adequate treatment, "R" = Host resistance, and "B A" = Biological activity of the tumor.

The greater the biological activity or virulence of the tumor (the denominator) the smaller (poorer) will be the prognosis. And the more effective treatment (adequate surgery, applied early) factored by higher host resistance will give a larger numerator and a bigger (better) prognosis. Tumor virulence and host resistance are intimately related but we have no way of knowing whether or not the same factors directly influence each. Factors of age of patient, endocrine status, etc., are reflected in either the degree of host resistance or amount of tumor virulence.

It has been questioned whether or not type of treatment influences results in breast cancer therapy, but a study we [3] undertook at Confederate Memorial Medical Center, in which two methods of treatment were used in two series, demonstrated the definite fact that type of treatment does influence prognosis.

The factors of host resistance and tumor virulence are of equal, if not more, importance than the treatment but we have no method yet of anticipating these factors and must usually assess them in retrospect, although a clinically fulminant tumor must have either low host resistance or high biological activity of the tumor or both. In fact, most agree, in general, with MacDonald's [64] thesis of predeterminism: which is, that in about 55 per cent of all breast cancers the factors of host resistance and biological tumor activity are such that these patients are doomed to die of the disease regardless of what presently available methods of therapy are used; that 20 per cent are easily curable and that in 25 per cent it is important to make an early diagnosis and give proper treatment. Thus, according to him, the maximum theoretical curability of all breast cancers is only 45 per

cent. This may be true enough: but so far we have no reliable method to classify in every instance in which category a particular patient lies. So that unless it is obviously incurable, definite therapy aimed at cure must be offered. This occurs in about 56 per cent of cases, which are estimated primarily curable when first seen.[22]

Attempts to "predetermine this predeterminism" have been made by two methods. One of these is the grouping of cases into the categorically inoperable group as proposed by Haagensen and Stout [46] and others. Based on certain clinical findings an attempt has been made to eliminate from those offered radical mastectomy the cases that experience has shown little chance of curing. The wisdom of too slavishly adhering to such criteria can be questioned. Haagensen and Stout have themselves eliminated some from their list of categorically inoperable, such as pregnancy and lactation, by virtue of the fact that even some of these have been apparently cured. As Orr [85] has said: "If the criteria of operability of Haagensen and Stout are followed strictly, a small percentage of patients may be denied the possibility of a cure." Many adopt a more liberal view such as expressed by Adair: [8] "Our rule is simple. We consider any case operable in which the disease is localized in the breast, or the breast and axilla, in which we consider there is a chance of cure, no matter how small that chance." Most clinicians tend to adopt a policy somewhere between these extremes.

Another method of predetermining the possible curability of a particular case is the triple biopsy method of MacDonald, Haagensen and Stout [65] in which the tumor, an internal mammary node and an infraclavicular node are biopsied. If either the internal mammary or infraclavicular node is positive, any attempt at radical extirpation is abandoned. This brings up two related problems which have not yet been satisfactorily answered: Whether there is any palliative value to radical mastectomy and secondly, whether the extended radical of Urban and others or the extensive radical of Wangensteen increases the cure rate.

Radical Mastectomy

The primary purpose of radical mastectomy is the removal of localized disease. When distant metastasis occurs subsequently, it is usually assumed it preexisted but was unrecognized at the time of surgery. Local recurrence, however, is directly attributable to the failure of the primary purpose of radical mastectomy. Since the local recurrence rate averages 10 to 15 per cent it can be said that regardless of the ultimate fate of the patient, the primary purpose is accomplished in 85 to 90 per cent of instances. Halsted [48] felt that "the efficiency of an operation is measured more in terms of local recurrence than of ultimate cure."

As Carroll and Shields [26] have said: "The primary goal of treatment of breast cancer is to achieve long-term survival without evidence of persistent local disease or distant metastases." Certainly at least part of this may often be accomplished by radical mastectomy (lowered local recurrence). As Madlin and Johnson [73] say: "A radical mastectomy not only offers the only possibility of cure but also prolonged palliation—an often overlooked dividend." This possibility of real and effective palliation by radical mastectomy even with proven regional (internal mammary or infraclavicular metastases) when combined with postoperative irradiation of these areas is certainly debatable and is one of the questions that has not been satisfactorily answered. Likewise the value of extension of the operation to include the internal mammary nodes [53, 107] has not been established. There are, at least, theoretical grounds to justify an exploration of this approach, and some figures do indicate a slightly improved five year survival rate.[67, 68, 109] Extending the operation to include the supraclavicular nodes as proposed by Wangensteen,[110] however, carries a higher morbidity and mortality with no evidence to suggest an increased salvage rate.[111]

The theoretical and factual bases for internal mammary node excision are these: The internal mammary chain along with the axillary nodes are areas of primary lymph drainage of the breast. About 10 to 15 per cent go via intercostal lymphatics [109] and a small percentage by the hematogenous route, but the majority drain primarily into either the axillary nodes, the internal mammary nodes or both. If radical mastectomy and axillary node resection is a logical and proper treatment for cancer of the breast, then removal of the internal mammary chain is likewise, since it does not appreciably increase the morbidity or mortality.[102, 107] Since Handley and Thackray [50] reawakened interest in the importance of the internal mammary chain, it has been found that in about 17 per cent of all cases they are involved,[12] and this percentage is much higher when the axillary nodes are involved and when the inner half of the breast is the site of the primary lesion. Certainly, particularly in view of the experiences of Margottini [67, 68] and Urban,[109] exploration of this field is justified.

There is one other method which is being investigated as to the possibility of determining the relative virulence, perhaps, of cancer and that is by studying the peripheral blood for cancer cells.[90, 91, 112] Whether this will be of any prognostic value remains to be seen.

Simple Mastectomy and X-Irradiation

However, the point about which the greatest interest has been evidenced in recent years is that raised by McWhirter challenging the concept of radical mastectomy as the best primary treatment for cure of breast cancer, recommending in its stead simple mastectomy and x-irradiation.

McWhirter's [79-82] recommendations, in 1948, dropped like a bomb-shell on a complacent majority. It was hardly new, going back to Borak,[17] Grace,[42] Mitchener, et al,[72] and Erskine.[35] But his reasons were so logical, his statistics so challenging that there resulted a "flurry of re-evaluation, review of techniques and conscientious soul searching".[89] Certainly no one can disagree with McWhirter's recent statement: [83] "If nothing else, we've succeeded in shaking the complacency of many surgeons about the radical operation."

McWhirter's thesis is simple enough:

(1) If the disease is confined to the breast, it is unnecessary to remove axillary nodes.

(2) If there are metastases to axillary nodes, radical mastectomy often fails to save the patient and the operative trauma may actually spread the disease.

(3) He then claims no mortality, no morbidity and a five-year survival rate equal to that obtained in the best surgical clinics; and a method applicable to all cases regardless of stage of disease.

No one doubts McWhirter's sincerity or honesty, but after the first wave of self-doubt, restudy and re-evaluation of simple mastectomy and x-ray vs. radical mastectomy for the primary treatment of breast cancer has but served to place things in their proper perspective.

In essence, McWhirter depends on simple mastectomy to remove the primary lesion and irradiation to control nodal metastases if present. Many telling objections to the acceptance of McWhirter's thesis have been raised.

It is true that if the lesion is confined to the breast alone, simple mastectomy will rid the patient of disease. But clinical judgment is at least 20 to 30 per cent wrong in judging axillary nodes as negative or positive. If the nodes are not removed, it is impossible to be sure what stage a case is, in regard to axillary node involvement. It has been amply shown that x-ray cannot sterilize lymph nodes.[11, 14, 57, 58, 92, 95] "When axillary dissection is omitted and reliance is placed on postoperative irradiation, one patient in every six that might have been added to the group of five year survivals is lost." [40]

It is true that radical mastectomy fails to cure in many cases, but that is not

necessarily an indictment of the procedure. When Halsted first visited the European Clinics in the latter part of the 19th century, when an inadequate surgical treatment was being used, the five year survival of cases was less than 20 per cent. This is no more than the survival of untreated breast cancer.[31, 32, 100] Following the introduction of radical mastectomy, the five year survival was at least 30 per cent with positive axillary nodes and 70 per cent if no axillary nodes were involved. And there is every reason to suppose that doing a simple mastectomy in a case with lymphatic extension cutting through these lympatics can certainly spread the disease as much or more than incontinuity removal of regional lymphatics.

Comparison of Results

It is, admittedly, impossible to accurately compare McWhirter's result with other series. There are ample figures suggesting a 10 to 15 per cent better overall result with radical mastectomy.[16, 40, 44, 87] Perhaps one of the most telling of the arguments against acceptance of simple mastectomy plus x-ray as the best primary treatment was made by Ackerman,[5] in reviewing McWhirter's own material. He found follow-up statistics poor, some cases not actually cancer, a significant degree of morbidity from irradiation even including upper extremity amputation. As he concludes: "It is very difficult to draw any conclusions from this group of figures except to say there was considerable irradiation morbidity, that many of the patients are not cured and that local persistence rates are fairly high (16 per cent) in early operable cases. It can be stated that McWhirter has not proved sterilization of tumor in axillary lymph nodes. In fact, the high percentage dying in stage 1 and 2 suggests the converse. Of course, this is the important group." In addition in some cases (the obese ones) radical mastectomy was done and in at least 220 there was added the factor of ovarian sterilization certainly making an evaluation of the surgery and irradiation factors difficult, to say the least. Furthermore, steroid therapy was used whenever indicated, further modifying the survival time.

Carroll and Shields[26] point out that even if salvage rates by McWhirter were the same, there is greater morbidity than by radical mastectomy and viable disease is more often left in the area of treatment. Pollack[89] states: "The most serious error in McWhirter's work is that he has rigidly applied a single treatment to a disease as variable as breast cancer. Since he failed to do a carefully controlled clinical trial, valid conclusions as to the merit of this form of treatment cannot be drawn." As Lewison[61] comments: "The success of the McWhirter technique lies primarily in the very early and late cases of breast cancer. In the broad middle-ground of borderline cases with less extensive axillary involvement, confidence in well performed radical surgery of the axilla merits one's continued trust." Elman[34] states: "Inasmuch as results after the complete operation are so well documented, it is obviously necessary that the over-all results with lesser procedures be known in just as great detail. Isolated and limited tabulations of five year survivals after simple mastectomy (and x-ray) are not sufficient" reasons to abandon established procedures. "Until unequivocal evidence to the contrary is forthcoming, it seems clear that, viewing the problem knowingly and without prejudice, any woman with an early mammary cancer can be assured an excellent chance for a prolongation of life expectancy equaled in few other malignant diseases, provided an adequate resection is carried out." "While the overall results of radical resection leave much to be desired, this applies largely to the late cases and to patients with a rapidly spreading lesion." And Peters[87] says: "Purely from the statistical approach, radical mastectomy—a method with a low operative mortality — presents a better five year survival as shown by Haagensen than the current figures with McWhirter's series. On this basis alone, radical mastectomy is a more effective weapon against operable breast cancer than is simple

mastectomy together with postoperative radiation." "Whether it be a comparison on the basis of statistical five year survival, the theoretical principles or basic fundamentals, the evidence supports radical mastectomy." "In our opinion, radical mastectomy remains the treatment of choice for those patients who have cancer in which we may presume the probability of cure." [30]

"These flurries (of questioning the importance of radical mastectomy) have had value because they make the breast surgeon examine the basis of his method. They have also done great harm by giving aid and comfort to the careless or ill-trained or hurried surgeon, by relaxing standards and encouraging therapeutic nihilism." [63]

Dunphy [33] states: "It is reprehensible for the occasional operator who would not undertake a radical mastectomy to perform a simple mastectomy and then refer the patient to a larger center for radiation therapy." Bell [15] points out that there are seemingly more and more patients "in whom it is quite obvious that the original treatment was inadequate and incomplete." He is certain that "the lives of many of these patients are being sacrificed because of inadequate initial treatment."

Certainly no one is satisfied with our present treatment of cancer of the breast, but on theoretical and statistical grounds, radical mastectomy has given the best curative results of any treatment to date. Improving one's statistics by only offering this treatment to a limited number of early cases may deny a few cases of the one method of cure. Certainly cases have been cured by simple mastectomy and x-ray, even by simple mastectomy alone, but it was perhaps fortuitous that these cases had the disease confined to the breast alone. Since we have too large a percentage of error in evaluating axillary extension on clinical grounds alone, it is necessary to assume that they all have axillary involvement and treat accordingly. It is the only possible method of ridding the patient of viable cancer if the disease is limited to these areas (breast and axilla). Certainly dependence on x-ray control of the nodes is fallacious as proven viable cancer will remain. The palliative value of radical mastectomy in minimizing local recurrence is of importance though one would hardly carry out the procedure in the face of proven distant metastases. Unfortunately, it is too often carried out with unrecognized distant metastasis—in which the patient is doomed to a cancer death but at least more often than not spared the agony of a visible, fungating open lesion on her chest wall. Unsatisfactory though it is, radical mastectomy has served us in good stead in the salvage of breast cancer cases and nothing better or as good has been developed to date.

Conclusions

1. There are many areas of controversy in the diagnosis and treatment of breast cancer but the one of most general interest is the comparative values of radical mastectomy versus simple mastectomy and x-ray in the treatment of primary curable cancer.

2. Cancers have been cured by both methods but radical mastectomy gives the only chance of positive cure if the disease extends beyond the breast itself.

3. Radical mastectomy is preferable primary treatment aimed at cure of breast cancer and will give more cures to more women than any other method offered to date.

4. Radical mastectomy is not indicated in all cases; but in those cases in which it is (clinical stage 1 and 2), it is the only method of possible cure if the patient has axillary node involvement.

5. Simple mastectomy and/or radiation are of definite palliative value but to use these methods aimed at cure eliminates from cure those who have extension only to the axillary nodes.

6. Those cases cured by simple mastectomy and x-ray had the disease confined to the breast, but clinical staging is too unreliable to use it as a basis of withholding possible curative surgery. One

must assume axillary node involvement, at least, in all cases in planning treatment.

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Treatment of Disseminated Lupus Erythematosus and Rheumatoid Arthritis with Methylprednisolone

• Eighteen patients with rheumatoid arthritis and ten patients with disseminated lupus erythematosus were treated with methylprednisolone, with the conclusion that this drug seems to have a somewhat more potent anti-inflammatory action than prednisone or prednisolone.

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ALTHOUGH corticosteroids probably do not alter the ultimate course of disseminated lupus erythematosus or rheumatoid arthritis, they are, nevertheless, widely employed in the management of patients with these diseases. Their usefulness derives from their nonspecific anti-inflammatory action usually producing dramatic clinical improvement when patients are initially treated. Once steroid therapy is started, however, the physician is often committed to long-term maintenance therapy with pharmacologic, suppressive doses of potentially hazardous drugs. It well behooves the doctor to exhaust other modes of treatment and to weigh carefully the possible benefits against the possible complications before initiating steroid treatment.

The search for corticosteroids with greater anti-inflammatory effect and fewer side-effects is being intensively pursued. The prednisteroids, synthesized in 1955, have approximately a three-fold greater anti-inflammatory action, with less sodium retention or potassium diuretic effect than cortisone or hydrocortisone. In 1956, Bernstein, *et al.*[1] synthesized the 16-alpha-hydroxy derivative of 9 - alpha - fluoroprednisolone (triamcinolone, Aristocort, Kenacort), thereby eliminating the powerful sodium-retaining effect of this latter compound, and simultaneously enhancing the glucocorticoid or anti-inflammatory activity. Since then triamcinolone has been shown to possess approximately 1.3 times the anti-inflammatory action of prednisone, with, however, the unique side-effect of muscle wasting.[2] Sodium and potassium diuresis have also been reported.[3, 4] In 1957, 6-methyl-prednisolone (Medrol) was released. Animal studies have shown this corticoid to be 2.5 to 3.0 times more anti-inflammatory than prednisolone when judged by inducing glycogen deposition or inhibiting granuloma formation.[5]

Clinical experience is still relatively limited, but Feinberg[6] reported that in maintenance therapy of allergic patients similar or slightly lower doses of methylprednisolone than prednisone were required. DiRaimondo and Forsham[7] reported methylprednisolone to have 33 per cent more anti-inflammatory effect than prednisolone and 60 per cent more than prednisone, using pituitary-inhibition as the criterion of anti-inflammatory action. In 1958, hexadecadrol (Decadrol) was reported by Bunim *et al.*[8] to possess six

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times the anti-inflammatory effect of prednisone and twenty-five times that of hydrocortisone. Clinical experience is still inadequate to permit evaluation of this compound.

The ideal corticosteroid is not yet available. Continued chemical modification of the molecule with the production of compounds with greater anti-inflammatory action can be beneficial to the clinician only if the side-effects are minimized and no new ones added. In 1957, $91,300,000 in prescriptions were written for corticosteroids in the United States alone.[9] Because of this massive utilization of these drugs, and because of the sparsity of clinical experience thus far reported in the literature with this new corticosteroid, we are reporting our experience in using methylprednisolone over a period of eight and one-half months in 28 patients with disseminated lupus erythematosus or rheumatoid arthritis.

Clinical Material and Methods

Eighteen patients with rheumatoid arthritis and 10 patients with disseminated lupus erythematosus were treated for periods extending up to eight and one-half months with methylprednisolone.† Most of the patients were initially hospitalized at the University of Wisconsin Hospitals or Student Infirmary. All were followed regularly at intervals of from one to six weeks as out-patients. At each visit the status of their illness was re-evaluated, blood pressure and weight were recorded, and the following laboratory procedures performed: routine urinalysis, complete blood count, blood sugar, non-protein nitrogen, erythrocyte sedimentation rate, total eosinophil count, serum sodium, potassium and chloride. X-rays of the chest and spine (and involved joints when indicated) were obtained before and after the study in most instances.

The diagnosis of disseminated lupus erythematosus was based on the clinical finding of multi-system involvement, and, in these particular patients, each had a positive LE cell preparation. The diagnosis of rheumatoid arthritis was made in most instances on the basis of typical joint findings usually with characteristic x-ray changes, though in some of the less florid cases, supportive evidence was derived from sensitized sheep cell agglutination and latex fixation titers and other corroborative laboratory data. None of the rheumatoid arthritis patients had a positive LE cell preparation, though only rarely were more than one or two performed in a given patient.

Patients were not placed on ulcer diets, antacids, or anticholinergic drugs, since it was deemed desirable to note any ulcerogenic effects of the drug. Gastrointestinal x-rays were done whenever epigastric symptoms occurred, or any suspicion was aroused concerning possible ulceration, but otherwise not routinely. Salt was not restricted, nor was potassium supplemented, unless for unique circumstances. Malnourished and underweight patients were given high protein, high calorie diets, whereas obese patients were placed on weight-reduction diets during the study.

As noted in Tables 1 and 2, most patients had been on previous steroidal therapy before methylprednisolone was given. Many of the hospitalized patients, particularly among the lupus group, were first seen by us because of exacerbations of their illnesses. When such patients had been on previous corticoid therapy, their exacerbations made comparison of previous steroids with methylprednisolone virtually impossible, since larger doses were generally needed. Otherwise, an attempt was made to change the former corticosteroid therapy to methylprednisolone in an effort to compare potency. Antihypertensive agents, analgesics, sedatives, tranquilizers, extra rest, exercise and physiotherapy were given concurrently when indicated. No attempt was made in treating the arthritis group to eliminate completely all symptoms, but rather to suppress them sufficiently, so that patients could function reasonably normally with minimal symptoms. Rheu-

† Generously supplied by Hubert C. Peltier, M.D., The Upjohn Company, Kalamazoo, Michigan.

TABLE 1
LUPUS ERYTHEMATOSUS PATIENTS TREATED WITH METHYLPREDNISOLONE

Case No.	Age	Sex	Race	Duration of Disease (yrs.)	Previous Treatment	MEDROL: Maintenance Dose (mgm./day)	MEDROL: Duration of Observ. (mos.)	† Response
1	39	F	N	4	Salicylates Chloroquin Cortisone ACTH Prednisone	12 to 28	8 ½	Fair
2	32	F	C	2 ½	Salicylates Prednisone *INH	16	5 ½	Excellent
3	46	F	C	4/12	Salicylates	16	4 ½	Good
4	57	F	C	10/12	Salicylates	4	8	Good
5	15	F	C	11/12	Prednisolone ACTH Salicylates	16	4/30	Expired
6	55	F	C	2	Prednisone	4	4 ½	Excellent
7	42	M	C	3	Chloroquin Prednisone	6	3 ½	Excellent
8	33	F	C	1 ½	Salicylates ACTH Prednisone	12	6	Good
9	52	F	C	1	Prednisone	24	7	Good
10	58	F	C	3 ½	Salicylates Prednisone	12	1 ½	Good

* Isonicotinic acid hydrazide, given as part of another study in doses of 50 mgm. three times daily.

† **"Excellent"** response: disappearance of all the symptoms as well as return of sedimentation rate to normal. Patient Afebrile.

"Good" response: absence of all major symptoms and signs of the disease but persistence of minor ones. ESR may be elevated.

"Fair" response: partial relief of the major signs and symptoms.

TABLE 2
RHEUMATOID ARTHRITIS PATIENTS TREATED WITH METHYLPREDNISOLONE

Stage	No. of Cases	(Class) Functional Capacity I	II	III	IV	Age Range (yrs.)	Previous Steroid Rx (no. of pts.)	Duration of Disease (yrs.)	Duration of Medrol Rx (mos.)	Maintenance Dose Medrol (mgm/day)	Grade Response I	II	III	IV
I	4	2	2	0	0	27-45	None (2) ACTH (2) Hydrocortisone (1) Prednisolone (2)	½ to 6	2-5	4-12	3	1	0	0
II	10	0	8	2	0	24-58	None (2) ACTH (2) Cortisone (2) Hydrocortisone (4) Prednisone (8) Prednisolone (2) Triamcinolone (1) Unknown Steroid (1)	2 to 16	2-8 ½	8-12	5	3	2	0
III	4	0	2	2	0	26-55	Cortisone (3) Prednisone (2) Prednisolone (2)	8 to 17	1-8	10-16	0	2	2	0
IV	0													

matoid subjects were usually started at 10 to 20 mgm. per day in divided doses, and gradually reduced to that level at which partial palliation was achieved. Representative case reports are included.

Results

Results of treatment with methylprednisolone in the two groups of patients are given in Tables 1 and 2. The response to therapy in the ten patients with lupus erythematosus has been arbitrarily graded as "excellent", "good" or "fair", as defined in the footnote to Table 1. Spontaneous remissions are known to occur in approximately two-fifths of lupus patients before specific treatment, so that it is not always correct to attribute a favorable response to a given agent. However, *abrupt* cessation of fever, arthritis or arthralgia, anemia, depression of sedimentation rate, a sudden feeling of well-being, etc., immediately following the addition of corticosteroids, is not likely spontaneous. It has also been our impression that spontaneous remissions in patients already on maintenance corticoid therapy are less likely to occur. It should also be noted that none of our lupus patients represented an instance of "initial treatment".

In general, the impression was gained that methylprednisolone is somewhat more potent in its anti-inflammatory action on a milligram basis than either prednisone or prednisolone. Several of the patients who were being satisfactorily maintained on a given dose of these latter drugs, and whose symptoms returned when the dose was reduced, were able to be changed to a lower dose of methylprednisolone with similar benefit. It was the authors' impression that 20 mgm. of prednisolone is approximately equivalent to 16 mgm. of methylprednisolone, 15 mgm. to 12 mgm., etc.

Results in treating the eighteen patients with rheumtoid arthritis are given in Table 2. These patients were classified according to the American Rheumatism Association classification (See Table 3) with the stage of the disease being determined by the worst joint. Our impressions gained here were similar to those with the lupus group. Two of the 4 patients in Stage I had had no previous steroid therapy. Both had been on treatment with large doses of salicylates and physiotherapy, but had failed to re-

TABLE 3
CLASSIFICATION
AMERICAN RHEUMATISM ASSOCIATION

Stage I (early): No destructive lesions by x-ray. Osteoporosis may be present.

Stage II (moderate): X-ray evidence of osteoporosis with or without slight subchondral bone destruction; slight cartilage destruction may be present but no joint deformities.

Stage III (severe): X-ray evidence of cartilage and bone destruction in addition to osteoporosis. Joint deformity without fibrosis or bony ankylosis.

Stage IV (terminal): Fibrous or bony ankylosis.

Functional Capacity:

Class I: Complete ability to carry on all duties without handicap.

Class II: Ability to conduct normal activities despite handicap of discomfort or limited mobility of one or more joints.

Class III: Ability to perform little or none of the usual occupational duties or self care.

Class IV: Largely or wholly incapacitated. Patient bedridden or confined to wheelchair.

Response during Treatment:

Grade I (complete remission): No systemic signs of rheumatoid activity including normal erythrocyte sedimentation rate, no signs of joint inflammation or extra-articular evidence of disease. No impairment of joint mobility other than associated with irreversible changes.

Grade II (major improvement): No systemic signs of rheumatoid activity other than elevated sedimentation rate. Major signs of inflammation are resolved and no new rheumatoid activity.

Grade III (minor improvement): Any decrease in signs of rheumatoid activity inadequate to fulfill criteria of Grade II.

Grade IV (unimproved or progression): Undiminished signs of rheumatoid activity, regardless of functional capacity. X-ray changes indicative of progression of the rheumatoid process.

spond satisfactorily to this program so that treatment with corticosteroids was deemed advisable. Both were given 2 mgm. Medrol every six hours with Grade I responses. One of these was able to have the dose reduced to 4 mgm./day (total dose) with maintained suppression of symptoms. The other 2 patients in Stage I had had previous steroid therapy as indicated in Table 2. One was previously treated with maintenance prednisone and had been in good remission with 15 mgm. day, when methylprednisolone was successfully substituted at 10 mgm./day. Attempts to substitute either 12.5 mgm. prednisone or 8 mgm. methylprednisolone resulted in swelling, pain and stiffness in the finger joints involved. These 2 patients already had Grade II clinical responses before Medrol was substituted, and no significant changes were noted other than the reduction of the dosage.

Of the 10 patients in Stage II most of them had some limitation of motion in more than one joint. Only 2 had not received previous corticoid treatment. One was changed from triamcinolone to Medrol at the same dose (12 mgm.) because of rather severe weakness and fatigue. Serum electrolytes were normal in this patient. Within two weeks of changing to Medrol, these symptoms were definitely improved. Most of the patients in Stage II or III were on high protein and high calorie diets in an effort to achieve ideal weight. Of the 4 patients in Stage III, the response to therapy was not sufficient to change the grade of response, however definite subjective and objective improvement did occur.

TABLE 4
SIDE-EFFECTS NOTED FROM MEDROL TREATMENT OF LUPUS ERYTHEMATOSUS PATIENTS (10)

Side-Effects	No. Pts.	Dose Medrol	Duration of Treatment	Comment
1) Cushing-Obesity (moon face, fat pads)	4	12-28 mgm./day	2-7 mos.	
2) Hypertension	0			7 of 10 had pre-existing hypertension; none was aggravated
3) Striae	1	24 mgm./day	4 mos.	
4) Purpura	0			
5) Plethora	3	12-28 mgm./day	2-7 mos.	
6) Hypertrichosis	3	12-28 mgm./day	2-7 mos.	
7) Acne	4	12-28 mgm./day	2-4 mos.	
8) Osteoporosis	0			
9) Edema	0			
10) Electrolyte Changes	0			
11) Weight Gain	7	4-16 mgm./day	1½-4 mos.	noted in those pts. with milder illness and more recent onset
12) Weight Loss	2	12-28 mgm./day	4-6½ mos.	attributed to the severity and duration of the disease
13) Convulsions	0(?)	16 mgm./day	4 days	was also severely uremic (see case #3)
14) Glycosuria	0			
15) Infections	0			
16) Thrombophlebitis	0			
17) Headache	0			several of those hypertensive had headaches previous to Rx; no apparent aggravation
18) Mild GI Symptoms (bloating, dyspepsia)	0			
19) Peptic Ulceration	0(?)	16 mgm./day	4 days	complicated by uremia, by previous prednisone Rx and subsequent Rx with hydrocortisone for 5 days after Medrol had been disc. (see Case #3)
*20) Chronic Hypercortisonism	1	12-28 mgm./day	8½ mos.	(see Case # 4)
Mental Changes:				
21) Mild Personality Changes	0			
22) Insomnia, Restlessness	2	12-28 mgm./day	4-6½ mos.	See Case #4, mild in other pts.
23) Acute Psychosis	0			
24) Menstrual Changes	0			

* Generalized myalgia, arthralgia, crying spells, emotional mood-swings.

TABLE 4—Continued
SIDE-EFFECTS NOTED FROM MEDROL TREATMENT OF RHEUMATOID ARTHRITIS PATIENTS (18)

Side-Effects	No. Pts.	Dose Medrol	Duration of Treatment	Comment
1) Cushing-Obesity (moon face, fat pads)	5	> 12 mgm./day	2-7 mos.	2 had been on previous corticosteroid therapy; no significant change after Medrol
2) Hypertension	0			(2 had pre-existing hypertension, not aggravated by therapy)
3) Striae	0			
4) Purpura	0			
5) Plethora	2	12-16 mgm./day	4-6 mos.	
6) Hypertrichosis	3	10-16 mgm./day	4-7 mos.	only one pt. complained of this; other two mild
7) Acne	3	8-16 mgm./day	2-8 mos.	chiefly facial; mild
8) Osteoporosis	0			
9) Edema	0			
10) Electrolyte Changes	0			
11) Weight Gain	10	8-16 mgm./day	1-8 ½ mos.	Gain of 5-18 lbs. without edema; also on high protein diets
12) Weight Loss	5	4-12 mgm./day	1-8 mos.	3 on weight reduction diets; other 2 lost 5 and 7 lbs.
13) Convulsions	0			
14) Glycosuria	1	14 mgm./day	4-mos.	transient; glucose tolerance normal
15) Infections	0			
16) Thrombophlebitis	0			
17) Headache	0			
18) Mild GI Symptoms (bloating, dyspepsia)	2	12 mgm./day	2 & 5mos.	upper GI x-rays neg. Rx successfully with antacids, while maintaining steroids
19) Peptic Ulceration	0			
*20) Chronic Hypercortisonism	0			
Mental Changes:				
21) Mild Personality Changes	2	12 & 16 mgm.	3-7 mos.	initial euphoria, increased doctor-dependence
22) Insomnia, Restlessness	0			
23) Acute Psychosis	0			
24) Menstrual Changes	0			

* Generalized myalgia, arthralgia, crying spells, emotional mood-swings.

Side-Effects

The side-effects noted from methylprednisolone administration to the lupus and rheumatoid arthritis groups are listed in Table 4. In general, the side-effects are similar to those already established as probable sequelae to prednisone or prednisolone therapy when suppressive doses are employed. No unusual weight loss, no muscle weakness or fatigability, no electrolyte disturbances and no unique symptoms were noted.

Case Reports

Case No. 1 (L.B.): A 49 year old white female patient was admitted to the hospital with a ten year history of rheumatoid arthritis manifested by multiple joint pain, swelling, and disability. Beginning in the ankles the disease had spread rather quickly to involve the hands, elbows, shoulders and hips. She was also diagnosed as having hypothyroidism and substitution therapy with desiccated thyroid was instituted. Therapy with prednisone was first used one year before this admission in a dose of 10 mgm. daily. This was changed to prednisolone, 20 mgm. daily seven months later. This latter program of medication had resulted in a gain of 15 lbs. in weight, rounding of the face, swelling over much of the body and development of labile hyptertension. Simultaneously, a great deal of her arthritis pain and disability had returned.

On examination the patient displayed a marked "Cushing's" appearance with characteristic obesity and "moon face". Objective evidences of arthritis were confined largely to the hands which were painful and swollen and motion was limited by soft tissue changes. The blood pressure was 140/90. None of the laboratory studies was noteworthy except for a sedimentation rate of 31 mm./hr. (Wintrobe). LE cells could not be demonstrated in the blood smears. X-rays showed characteristic rheumatoid changes in all joints examined (Stage III). Therapy with prednisone at 20 mgm. daily was resumed with Grade II response, but significant accentuation of her Cushing's problem. After three and a half months a change to Medrol in a dose of 12 mgm. daily was instituted with

instructions to begin a stepwise and very gradual reduction in her own dose. During the succeeding four months she was able to reduce her total dose to 5.5 mgm. daily with no significant return of discomfort, with maintenance of her Grade II response, and with significant reversal of her Cushingoid appearance.

Case No. 2 (E.T.): This patient was a 32 year old white female with a two and one half year history of disseminated lupus erythematosus, diagnosed by muscle biopsy and confirmed by numerous LE cell preparations. She had had rheumatoid arthritis for six years before the onset of the multi-systemic involvment leading to the diagnosis of lupus. She had mild hypertension, peripheral neuropathy, a typical "butterfly", facial, maculopapular rash, a trace of edema in both lower extremities and evidence of numerous rheumatoid arthritic changes in her joints.

She had been treated elsewhere with 10 mgm. of prednisone four times daily for a period of one month, and then 15 mgm. four times daily for another month before she was first admitted to this hospital, in April, 1956. Her dose of prednisone was slowly reduced to 5 mgm. twice daily, and she was successfully maintained at that level for eighteen months.

In November, 1957 she had an exacerbation of her symptoms and was re-hospitalized. Fifty mgm. of isonicotinic acid hydrazide three times daily seemed to produce a satisfactory remission, but six weeks later she had to be readmitted for the second time. Her daily temperature rose to 103°F, there was a marked elevation in her sedimentation rate, and she complained of malaise, anorexia and pains in her legs (attributed to a peripheral neuritis). Her red blood count was 2.39 million, hemoglobin 7.3 grams. No evidence of hemolysis or blood loss was detected. Reticulocyte count was 1.6% and her platelets exceeded 250,000 on several different counts. No transfusions, iron, vitamins, etc. were given for this normochromic, normocytic anemia. After two weeks treatment with methylprednisolone her hemoglobin rose to 10.4 grams, and two weeks later, as an outpatient, it was 12.4 grams. The hematology consultant felt that her anemia was due to the depressant effect of fever itself on the erythropoietic mechanism and her subsequent course seemed to confirm this. She was successfully maintained on 4 mgm. Medrol every six hours, and her monthly outpatient examinations and studies have continued to show an excellent remission for five and one half months.

Case No. 3 (M.B.): This patient was a 15 year old white female first admitted to the University of Wisconsin Hospitals on November 21, 1957. She expired on December 9, 1957. Her symptoms dated back to May, 1957 when she had swelling and pain in several joints and was given a tentative diagnosis of rheumatic fever. She did not respond to salicylates and bed rest. One month later she developed a facial rash and the diagnosis of lupus erythematosus was confirmed by finding numerous LE cells. She was placed on 20 mgm./day prednisolone and experienced freedom from symptoms for two months. She then developed a generalized bullous impetigo which was treated with broad-spectrum antibiotics at another institution. She was discharged from there with her steroids withdrawn and on a program of salicylates. Within a month she had a recurrence of symptoms (arthralgia, fever, pruritic facial maculopapular rash), and was again placed on prednisolone by her family physician. She did fairly well for several weeks, except for some morning nausea and vomiting. On admission here she denied hematemesis or melena, and complained only of malaise, weakness, myalgia and arthralgia.

Physical examination revealed a rather pale, well-developed, well-nourished adolescent female, appearing chronically ill. Blood pressure was 175/105, temperature was 99.2°F. Waxy white patches and small hemorrhages were noted in both fundi. Diffuse enlargement of the left parotid gland but no tenderness was noted. A pale, indistinct "butterfly" rash was seen over both malar regions. Examination of the heart and lungs was normal. No abdominal tenderness was noted, and the liver and spleen were not palpable. Neurological examination likewise was within normal limits.

Her laboratory findings on admission revealed an albuminuria of 0.8% with microscopic hematuria and pyuria, as well as granular, waxy and hyaline casts. Her hemoglobin was 9.3 grams and the red cell count was 2.69 million. There were 5,300 white cells with a normal differential count including 2% eosinophils. Fasting blood sugar was 125 mgm./100 ml., non-protein nitrogen was 92 mgm./100 ml. and creatinine was 6.1 mgm./100 ml. Serology was negative and electrolytes were normal except for a carbon dioxide combining power of 19.5 mEq./L. LE cell preparation from peripheral blood was positive. Serum uric acid was 7.7 mgm./100 ml. Feces were negative for occult blood. Total serum proteins were 5.4 gm.% with 2.5 gm. of globulin. Cephalin flocculation was 4 plus. Chest x-ray was negative. Electrocardiogram was within normal limits. Serum electrophoresis showed a mild hyperglobulinemia, hypoalbuminemia and a three-fold increase in alpha-2 globulin suggestive of lupus erythematosus.

She was initially given 4 mgm. of Medrol four times daily, and reserpine 0.25 mgm. four times daily. She was transfused with packed red cells. She seemed to be responding satisfactorily, when, on the fourth day of her hospitalization, she had three grand mal seizures, and then lapsed

into coma. It was necessary to maintain her for the next four or five days on parenteral fluids. She was given phenobarbital parenterally and digitalized. Serum electrolytes were closely followed and were not significantly abnormal. Medrol was discontinued when parenteral feeding became necessary and at this time hydrocortisone was substituted in the intravenous fluids in doses of 200 mgm. a day. The patient slowly began to improve, temporarily, and her seizures stopped after twenty-four hours although she remained semi-comatose. She was given several whole blood transfusions during the remainder of her hospitalization and her hemoglobin persistently was recorded as being 10.0 to 10.8 gm. The patient failed slowly and on the day before she expired she developed for the first time tarry stools which were guiac positive. At this time her non-protein nitrogen had risen to 137 mgm.% and the creatinine to 10.4. It was felt that her gastrointestinal bleeding was probably secondary to her uremia although steroid ulceration could not be excluded. She finally had a massive hematemesis a few hours before she expired.

Autopsy was performed and the primary diagnosis of disseminated lupus erythematosus confirmed. She also manifested a characteristic lupus glomerulonephritis with at least 75% of the glomeruli reported as fibrotic and hyalinized. The tubules were dilated and contained casts and numerous typical "wire-loop" lesions. The adrenal glands showed fibrinoid degeneration in the adjacent connective tissue but they were of normal size, shape, weight and consistency. The entire alimentary tract contained a tarry black material, the gastric mucosa was reddened and injected and in the fundus four mucosal ulcers were present, varying in size from 0.5 to 1.5 cm. in diameter. The ulcer margins were discrete and not raised. The bases were clean and resting on the muscle. The remainder of the gastrointestinal tract was unremarkable except for marked mucosal edema and scattered submucosal petechiae.

Whether this patient's acute gastric ulcers with hemorrhage were caused by the uremia or by the steroids or even reserpine cannot be ascertained. That Medrol may have contributed to her ulcers and hemorrhage is possible. In retrospect this patient had nausea and vomiting symptoms for several weeks before she was admitted but she lacked these symptoms here and when they finally were manifest, her condition precluded doing x-ray studies. The cause of the convulsions was not revealed by postmortem examination of the central nervous system. The anatomic central nervous system diagnoses were: (1) slight atrophy of the cerebral and cerebellar cortex; (2) sclerosis, Sommer's sector, Ammon's horn; and (3) acute, ischemic necrosis of subcortical nerve cells. The pathologist was unable to find any characteristic vascular lesions in the brain or choroid plexus. The ischemic necrosis of nerve cells was believed to indicate prolonged terminal cerebral hypoxia and was consistent with the patient's terminal hypotensive state.

Case No. 4 (A.T.): *Systemic Lupus Erythematosus:* A 39 year old female Negro was followed for four years with a diagnosis of disseminated lupus erythematosus. She had persistently had postive LE cell preparations, hyperglobulinemia, polyarthritis, hypertension, maculopapular facial rash and abnormal urinary sediment. She also had developed pleural effusion, pericarditis and congestive heart failure. She was treated satisfactorily with salicylates and/or chloroquin for the first year and one-half, but cortisone was deemed necessary in August, 1955, and since that time she had received one or other of the corticosteroids.

In November, 1957, she developed symptoms that were compatible with a diagnosis of chronic hypercortisonism (myalgia, arthralgia, emotional disturbances and a peripheral neuropathy manifested by shooting pains in the legs, hyporeflexia, hypalgesia and hypesthesia with a stocking-like distribution). These symptoms were superimposed on previous Cushingoid features, so that the possibility of these symptoms being caused by steroids was seriouly entertained.

Effort to reduce the dose of prednisone below 20 mgm./day failed. However, 16 mgm./day of methylprednisolone was successfully substituted. Over the next four weeks she was able to reduce this to 12 mgm./day, but no further reduction was possible. Indeed, in ten weeks she again escaped control and it was necessary to increase the dose to as high as 28 mgm./day.

During the first month of receiving doses of 20 mgm./day or more, she complained of hypertrichosis, insomnia, and severe restlessness. These symptoms diminished during the last two months, and she seemed to be maintained satisfactorily on 14. mgm./day, up to the time of death. Although this patient had been progressively hypertensive during the course of her disease, and required vigorous anti-hypertensive therapy, no change in the degree of hypertension had been observed with either an increase or decrease in the dose of medrol, so that it is felt to be a part of her underlying disease and not drug-induced or aggravated. Her response was classified as being "fair".

Discussion

Not all patients with disseminated lupus erythematosus or rheumatoid arthritis need, nor should they receive, corticosteroid treatment. Salicylates in adequate doses (3 to 6 or more grams daily) should be given initially unless the course

(of lupus) is fulminant, the patient extremely toxic, or there is a complication such as pericarditis, or a pleural effusion with respiratory insufficiency, etc. In our experience, salicylates under such conditions have not been beneficial. Chloroquin, though occasionally useful in suppressing particularly the joint symptoms of lupus, has not been sufficiently encouraging to administer to the seriously ill patient.

The particular corticoid of choice in any suppressive therapy, should not necessarily be one with the greatest anti-inflammatory effect, but, more important, that one which, while suppressing the major manifestations of the illness, produces the fewest side-effects. Many of the "side-effects" of the corticosteroids may be considered as not true side-effects, but rather the inevitable consequence of giving large enough doses for a sufficiently long period of time. In this light, the production of a Cushingoid syndrome, with acne, hypertrichosis, "buffalo hump", "moon face", plethora, striae, etc., are simply physiologic responses to the use of pharmacologic doses of corticosteroids. Such side-effects as those mentioned are of little more than cosmetic significance, and, of course, would not be a deterrent to treatment whenever steroids are needed. Such further manifestations of Cushing's syndrome as diabetes mellitus, hypertension, osteoporosis, atrophy of the muscles of the extremities, etc., are either a minor and acceptable risk, or a major risk, depending upon whether the patient is predisposed before treatment is initiated. We have recently reviewed and attempted to classify corticosteroid side-effects in another report.[10]

The results of these clinical observations indicate that methylprednisolone is an effective steroidal agent for the management of systemic lupus erythematosus or rheumatoid arthritis when the use of corticosteroids is deemed necessary. Although difficult to ascribe a precise value to the anti-inflammatory effect of methylprednisolone on the basis of this clinical study, our findings agree with those of DiRaimondo and those of Feinberg, in that Medrol is somewhat more potent than prednisolone or prednisone. In a metabolic study to be reported later, utilizing forty normal healthy subjects, we have found methylprednisolone 64 per cent more potent than prednisolone as judged by its anti-inflammatory effect, using pituitary-inhibition as the parameter. The toxic effects noted herein, are such that the usual precautions for employing corticosteroids should be emphasized. But the incidence and nature of toxicity compare very favorably with those recognized for the prednisteroids.

Summary

1. Clinical results with the use of methylprednisolone in treating 28 patients with disseminated lupus erythematosus or rheumatoid arthritis is related.

2. Methylprednisolone seems to have a somewhat more potent anti-inflammatory action than prednisone or prednisolone.

3. The side-effects compare favorably with those recognized as occurring with comparable doses of the prednisteroids. No unique side-effects were noted.

4. Representative case reports are given.

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Public Schools of New Orleans

We deem it fairly within our province as the Organ of the Medical Profession in this region, and as humble though zealous laborers in the great objects of public health, public morals, and scientific improvement, to offer a few remarks on the system of public instruction in the City of New Orleans. * * * It has become a settled maxim, founded in philosophy, and verified by the records of history, that no nation is qualified either to enjoy or preserve liberty unless it be enlightened; hence public instruction and a general diffusion of knowledge among the people have ever been considered by our Legislators objects of paramount importance. Ample resources have been provided by Government for the accomplishment of these objects in the United States, but the people themselves have not formed a just appreciation of their nature. A foolish pride and silly fastidiousness have induced persons of wealth and influence in society to withhold their countenance and aid from the great enterprize, under the false though liberal impression that the aid of government should be left entirely for the benefit of the poor. * * * the citizens of New Orleans have at length arrived at a proper view of the matter. They now perceive that a large fund derived from their pockets by taxation, and wisely intended for the education of the rising generation, to be properly applied, must command their serious attention and united influence.

New Orleans M. J. 1:376 (January 1) 1845.

Surgical Management of Diverticulitis of the Colon*

• The author cites the trend toward earlier operative intervention in diverticulitis and the advantages of the one-stage procedure.

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THE present day surgical management of colonic diverticulitis is changing. Specifically, the changes are to extend the indications for surgery to embrace earlier cases of diverticulitis and to carry out definitive operations in fewer stages to shorten the period of disability.

In the surgical management of diverticulitis, the best accepted procedure is excision of the diseased bowel with restoration of the anatomy and physiology of the parts. This is curative, the ideal to be hoped for in all cases requiring surgery.

Excision of the segment involved with diverticulitis is not a completely new method of treatment. It was originally advocated by Smithwick in 1942, following his survey of the treatment of a large series of cases by the so-called palliative types of surgery. Prior to that time surgery for diverticulitis and its complications consisted of a proximal colostomy and, if needed, local drainage of the infected areas. That a colostomy alone was not adequate became apparent to him in view of the high incidence of recurrence of the diverticulitis following closure of the colostomy. Also apparent was the prolonged morbidity from fecal fistulae which oftentimes attended drainage of abscesses, and from colostomy. He showed that the mortality rate was higher from the palliative type of treatment than from resective procedures, combined with colostomy. Cases of resection, though staged, fared better. Now an even more aggressive approach is the one stage procedure, resection with primary anastomosis, enthusiastically championed by Waugh, and Welch and Greene.

The management of diverticulitis in its initial stage has been in the past, and continues to be, medical. In the past surgical treatment of diverticulitis was limited entirely to the complications of diverticulitis; that is fistula, perforation, acute obstruction and occasionally bleeding. However, this attitude has changed, and there is good basis for this change towards earlier operative intervention.

Recognition More Common

Diverticulitis is being recognized more commonly today. This is due to increased longevity of the average citizen and more common use of diagnostic measures, such as barium enema and air contrast enema. Probably most important, an increased number of physicians have accepted the fact that diverticula are not entirely innocuous and are capable of causing trouble which is amenable to surgical treatment. Another barometer which may indicate diverticulosis to be more common is that, since 1914, there have been some 400 articles on diverticulitis and diverticulosis, 100 of these having appeared in the last five years. Along with these previous thoughts it should be mentioned that mortality and morbidity of colonic surgery have declined considerably in the past decade.

Need for Surgery

How often do cases of diverticulitis require surgery? It is estimated that approximately 10 per cent of people above 40 have diverticulosis. It has also been

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estimated that approximately 20 per cent of the cases of diverticulosis will develop diverticulitis, and of those who develop diverticulitis 20 per cent will need surgery. That is probably a low figure.

In a series of cases of primary diverticulitis closely followed by Greene, approximately half of the patients will eventually require surgery. Review of 109 cases showed that a person having two admissions for diverticulitis has a better than 50 per cent chance of having to come back a third time for some operative procedure. The important point is that it is a progressive disease. This is also shown by surveys of the incidence of diverticula by decade. It is estimated that 10 per cent of people at the age of 40 have diverticulosis and at the age of 85 some 66 per cent have diverticulosis. The incidence gradually increases until approximately 33 per cent, a rough estimate, of all people in the eighth or ninth decade have diverticulitis.

Type of Operative Procedure

What type of operative procedures can be employed in the management of the problem? This will depend on the stage at which the disease presents itself. A proximal colostomy may be necessary at times.

Perforations.—Walled-off perforations which most commonly rupture into the mesocolon or into a neighboring viscus, may be treated medically. If the inflammatory process fails to respond to medical treatment, surgery is indicated. If a free perforation, clinical signs of generalized peritonitis will be present and laparotomy will be required for closure of the perforation. If the perforation is large, and will admit one or two fingers, the problem is different, and the involved bowel will have to be exteriorized, or the area of perforation drained and a proximal colostomy done.

Abscess.—An abscess is truly a walled-off perforation with infection. The findings vary as to the type and size of the abscess and whether adjacent structures are involved. Small localized perforations with abscess formation may be drained or exteriorized. Larger abscesses require drainage and proximal colostomy with or without exteriorization.

Obstructions.—For the lesion to be surgical, the obstruction should be complete, or almost so, because partial obstructions respond to conservative management. If the case presents as a complete obstruction in the sigmoid, the usual location, a proximal transverse colostomy is indicated followed by elective resection at a later date.

Bleeding.—A wide difference of opinion exists as to the percentage of patients with diverticula who will bleed. The figures vary from 3 to 47 per cent. It is probably safe to say that a figure midway between these extremes is probably correct. In general the bleeding is moderate, intermittent, and only rarely massive. For management of acute massive bleeding in extensive diverticulosis of the colon, a total colectomy may be a lifesaving procedure. It should be pointed out that to identify the actual bleeding diverticulum in cases of bleeding diverticulitis is most difficult. If bleeding ceases without operation an elective resection may be done later.

Deformity.—Deformity of the sigmoid colon is demonstrated by barium enema, and some increase in the deformity may be noted by serial x-rays. If the point has been reached where the radiologist feels that he is not confident that he is dealing solely with diverticulitis, the case is best resected and can be done primarily as a one stage procedure. Little doubt exists that carcinoma of the colon in association with diverticulitis carries a more grave prognosis. The sigmoid is the most common site for diverticula and is also a very common site for carcinoma of the colon. Hence the two will be associated, not etiologically, but anatomically. These cases are best treated by one stage resection.

Recurrent attacks.—Probably the most important indication for the one stage resection is in recurrent bouts of diverticulitis . One stage elective resection can be accomplished with primary anastomosis and without proximal colostomy. Par-

ticularly if the patient has urinary symptoms, he is imminently in danger of developing a sigmoido-vesical fistula or some other complication. The patient who has repeated bouts, especially if hospitalization is required, definitely should be operated on.

Morbidity from multiple stage procedures is high. In one series the time spent in hospital was two hundred to three hundred and five days. A primary resection can be done with an average sixteen day hospital stay. The demoralizing effect of a colostomy and the time and money squandered with staged proceudres can be averted by the proper management of recurrent diverticultitis. The complications of diverticulitis occur usually in the cases that have had repeated bouts of infection in the diverticula; under such circumstances resection is indicated.

The advocacy of early resection for recurrent bouts of diverticulitis represents an opportunity to add prophylactic surgery in the colon just as is being done for gall-stones and premalignant lesions. Associated difficulties arising in the late neglected case will be avoided. The plea is for early operation for recurrent bouts of diverticulitis, particularly if urinary symptoms have developed.

Preoperative preparation of the bowel consists of a low residue diet, liquids, daily enemata, laxatives, and sulfathalidine, neomycin, tetracycline or various combinations thereof.

The colostomy, when indicated, should be a right transverse defunctioning type for left colon involvement. Resection of the bowel may be difficult due to the presence of the fistulae, pericolic thickening, or perhaps adherence to the ureter and thickening of the mesentery. Nevertheless, the diseased area usually can be resected and an anastomosis done.

How much bowel to resect? We have much leeway here in that the entire colon may be removed from the right side above the ileocecal valve area down to the rectum. In the main, all diseased bowel should be removed, and the anastomosis should be done in an area free of diverticula.

From the practical standpoint, diverticula are scattered throughout the colon, from the ileocecal valve to the rectum. Usually the area of diverticulitis is in the sigmoid and resection of the sigmoid is accomplished. If the diverticulitis is more diffuse and involves the left colon, a left colectomy is indicated. Occasionally the widespread involvement demands a total colectomy, and surprisingly enough, the average patient tolerates loss of his colon with scarcely any aftermaths.

One must remember in the primary anastomosis or one stage resection, if there is any question about the anastomosis because of associated induration, or infection, proximal colostomy is a good investment. In the past in the presence of a fistulous tract, and the most common is the sigmoido-vesical or cutaneous fistula, a proximal colostomy was mandatory. Such is no longer tenable. Waugh reports 93 cases with primary resections for diverticulitis, including 15 cases of sigmoido-vesical fistulae with one death due to a bleeding duodenal ulcer postoperatively. That is indeed very good.

Summary

In summary, diverticulitis is a condition of increasing frequency and if allowed to progress, the disease is capable of assuming catastrophic proportions in prolonged morbidity and a very high mortality. It has been pointed out that all this is preventible by recognizing one stage resection in the properly selected cases as the procedure of choice in that it enjoys a high cure rate and an attractively low mortality and morbidity. Staged procedures, including preliminary proximal colostomy, resection of the diseased segment and closure of the colostomy, will be required for the late case of diverticulitis.

Discussion

Dr. John A. Hendrick (Shreveport): First, I would like to congratulate Dr. Cenac for his excellent paper. He leaves very little to be discussed in his very thorough coverage of the surgical aspects of this subject. There are only two points I would like to bring up for your

consideration. First, massive hemorrhage: It is most frequently found in extensive diverticulosis rather than diverticulitis. Possibly in diverticulitis the inflammation prevents massive hemorrhage. We feel in our experience with 56 cases of bleeding from diverticulosis and/or diverticulitis that the safest procedure when conservative measures fail is a proximal colostomy. This was done in 2 out of 56 cases of bleeding—these being the only 2 requiring surgery and in which conservative management failed. These were reported by Knight of our group in 1957. The mortality following primary resection in this group of cases has been shown to be almost prohibitive. We feel that the colostomy can safely be done in the right transverse colon, although we did one in the midascending colon, the other in the right transverse colon. In all probability, the bleeding is in the left half of the colon, despite the fact that diverticula are throughout the entire colon in most cases of massive bleeding. Elective resection can then be done at a later date.

Second, how much should we resect for diverticulitis? Had this question been asked me a month ago, I would have said the involved area shown by x-ray. It so happened that we had 2 candidates for resection at that time: One man of 50 with involvement of the sigmoid area only who had had repeated and recurring attacks over a period of one year; the second a man of 67 for whom we had advised resection two years earlier. His films were similar to the first case in that the sigmoid and a small part of the descending colon were involved. Repeat x-rays were amazing and only two years later the diverticula now involved the entire sigmoid, descending colon, splenic flexure and left part of the transverse colon, much more extensive than found two years before. In the first case—the youngest—we resected the sigmoid and most of the descending colon, mobilizing the splenic flexure to do so. The second we resected the sigmoid, descending colon, splenic flexure and part of the left half of the transverse colon to get beyond his disease. Should we have gone higher in our resection in the younger man of 50? Should we remove the entire left colon with the exception of the rectum in diverticulitis when it is an elective procedure and we have a young good risk patient? Time alone and close follow-up of patients will tell.

The National Medical Association

It appears that this august assemblage of the Representatives of the Medical Profession of the United States met in Philadelphia, on the 5th of May last, according to previous adjournment, and went through their proceedings with becoming dignity, harmony and ability. * * * It must necessarily require some time to develop the full influences of this great Medical Society. Each meeting will doubtless be attended with increasing interest, and we do not despair of seeing the most beneficial results spring from their deliberations.

* * * The number of delegates appointed was three hundred and twenty of whom two hundred and thirty-three were in attendance, and every State in the Union was represented except Maine, Alabama, Arkansas, Iowa, Florida, Texas, and North Carolina. * * * The report of the committee appointed at the last Convention to report a plan of organization for a National Medical Association was called up and read. On a subsequent day, the plan, after much discussion was adopted.—The name of the society is "The American Medical Association."

The New Orleans M. & S. J. 4:126 (July) 1847

Recognition of Remediable Heart Disease

• The need is stressed of correctly diagnosing the etiology of heart conditions, in order that the correct therapy may be administered, and four types of heart disease are described in which this is especially true.

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Shreveport

IT is usually not difficult to establish the presence of heart disease. Symptoms are classical, easy to elicit, and signs are readily available for confirmation. Not as simple, however, is recognition of the correct etiological diagnosis. Patients are often placed in categories of arteriosclerotic and hypertensive heart disease without consideration of other possibilities. As a result, many patients fail to receive specific therapy other than the usual treatment for congestive failure.

In Table 1 are listed types of remediable heart disease. Four of the conditions will be covered and will be illustrated with summarized case histories.

TABLE 1
REMEDIABLE HEART DISEASE

Thyrotoxic Heart Disease
Myxedema Heart Disease
Constrictive Pericarditis
Pickwickian Syndrome
Mitral Stenosis
Congenital Heart Disease
Pulmonary Emboli
Acute Renal Failure
Unilateral Kidney Disease
Arteriovenous Fistula
Pheochromocytoma
Bacterial Endocarditis
Traumatic Heart Disease
Hemochromatosis
Beri-Beri
Cardiac Tumors

Thyrotoxic Heart Disease

Thyrotoxic heart disease probably does not exist in a pure state. It complicates a pre-existing arteriosclerotic, hypertensive, or rheumatic heart disease. However, these cases, in the absence of thyrotoxicosis, would, in most instances, be asymptomatic. With the added burden of thyrotoxicosis, congestive heart failure is common. For this reason, I place thyrotoxic heart disease in the classification of remediable heart disease.

The diagnosis of typical Grave's disease poses no problem because of its characteristic exophthalmos and complaints referable to a hypermetabolic state. On the other hand, there are many patients beyond the age of 45 whose complaints are primarily cardiac in origin. The diagnosis in these cases is not so simple unless the physician bears in mind the possibility of thyrotoxicosis.

Certain findings during the cardiac examination direct our attention toward hyperthyroidism. The most suggestive finding is rapid auricular fibrillation that does not slow appreciably following digitalization. The apex pulsation is readily found and gives a very quick and forceful thrust. The mitral first heart sound is loud and snapping, and resembles the first heart sound in mitral stenosis. The pulmonic second sound is loud and often split and suggests an increased pulmonary blood flow. Murmurs are often present and may be misleading unless thyrotoxicosis is suspected. The murmurs heard, in order of their frequency, are: a systolic pulmonary murmur, a systolic mitral murmur, and, occasionally, a pre-systolic mitral rumble. These murmurs, if functional, will disappear on therapy. Blood pressure readings reveal a high systolic pressure with a normal to low diastolic pressure. Circulation time may be normal to shortened in spite of an elevated venous pressure.

From the Department of Medicine, Louisiana State University School of Medicine, and the Charity Hospital of Louisiana at New Orleans.

Other confirmatory evidence may be notably lacking. The thyroid gland is often normal in size. The expected eye signs are absent. Weight gain is the rule in the presence of edema. Heat is not particularly bothersome, and the appetite, in the presence of heart failure, may be decreased.

The following signs are much more likely to be present in the thyrocardiac patient. The skin is very smooth, noticeable particularly around the elbows. The hair is of fine texture and begins to fall out; female patients may note recent difficulty in maintaining a permanent. There may be increased numbers of bowel movements without particular change in the consistency of the stool. Quadriceps weakness is usually present and in the elderly patient may be quite incapacitating; in these patients it may be difficult to distinguish between limitation of activity due to dyspnea and that due to quadriceps weakness.

The following cases are examples of thyrotoxic heart disease:

The first patient was a 29 year old colored female who had a grade III precordial systolic murmur best heard at the second and third interspaces to the left of the sternum. The pulmonic second sound was loud and split. The patient was seen by two competent observers and was classified as having heart disease, either of rheumatic or congenital origin. This patient had other findings suggestive of thyrotoxicosis and her I^{131} uptake was elevated. With antithyroid medication the murmur completely disappeared. It had resulted from an increased and rapid blood flow through the pulmonary artery.

The second patient was a 48 year old colored female admitted for conversion of auricular fibrillation. On admission the heart was fibrillating at a rate of 120, the pulmonic second sound was loud, the mitral first sound was snapping, and a questionable pre-systolic mitral rumble was thought to be present. The diagnosis was mitral stenosis with auricular fibrillation. Conversion to a sinus rhythm was accomplished with quinidine. She was discharged on maintenance doses of quinidine but was readmitted one week later because fibrillation had recurred. It was again noted that the rate was rapid and out of proportion to the patient's cardiac reserve. Careful examination revealed quadriceps weakness, fine hair, smooth skin and tremor of the tongue and hands. I^{131} uptake was elevated and response to antithyroid medication was excellent. Fibrillation has not recurred and no definite diagnosis of mitral stenosis can be made.

Before closing the subject of thyrotoxicosis, I would like to mention a source of error in laboratory diagnosis of the cardiac patient. The protein bound iodine determination is available to all physicians. Outside of the medical centers, it is probably the test most widely used. Sources of error are usually limited to the administration of iodides. In the cardiac patient, however, another possibility of error exists. Mercurial compounds are known to interfere with the chemical reaction of the laboratory test. The mercury results in low false readings which may occur if the blood is drawn within forty-eight hours after a mercurial diuretic injection. To be certain of complete excretion, it is best to wait four to five days after an injection of mercury.

Hypothyroidism

Hypothyroidism as a cause of heart disease should be considered in patients having pericardial effusions or greatly dilated hearts.

On physical examination of the heart, the apex beat is difficult to find and the heart sounds are muffled. X-ray studies reveal a globular shaped heart enlarged both to the left and right. Fluoroscopy shows very weak and feeble contractions compatible with a pericardial effusion or a greatly dilated heart. The presence of fluid is confirmed by angiocardiograms, intravenous carbon dioxide, or by needle aspiration. Aspirated fluid should be examined for its cholesterol content, as it will be elevated in myxedema.

The electrocardiogram usually reveals low complexes with inversion to flattening of the T waves. The base line is characteristically straight without evidence of muscle tremor. These findings, in combination with a bradycardia, suggest the diagnosis of myxedema. EKG tracings, before and after treatment, are seen in Figures 1 and 2.

The diagnosis of myxedema is usually no problem. However, in the presence of heart disease it may be more difficult to detect. The facies of the hypothyroid

patient resembles that of the patient with chronic glomerulonephritis. The bradycardia may be lacking in the presence of heart disease, and the rate may be 100 or more. Hypertension, common in renal disease, is also not uncommon in myxedema. The most reliable physical sign of myxedema is the myxedema reflex. This reflex consists of a normal to slow contraction phase followed by a greatly pro-

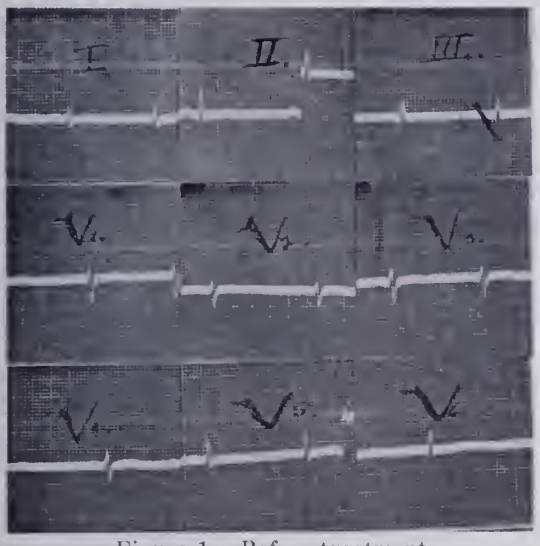


Figure 1.—Before treatment

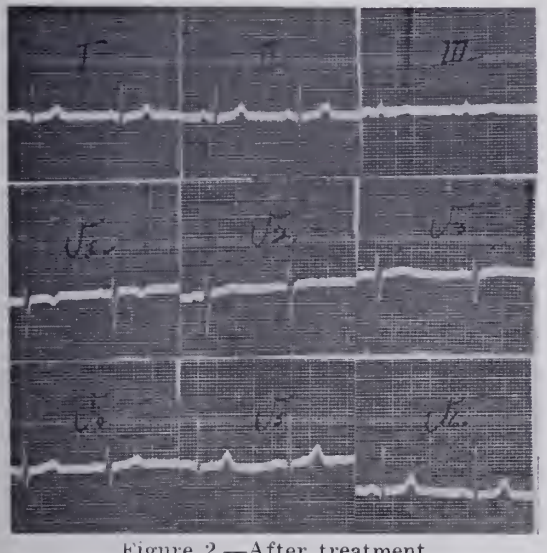


Figure 2.—After treatment

longed relaxation phase. It is most often elicited in the biceps and ankle reflex. The knee jerk is not reliable, as the weight of the leg hastens the return to the resting state. Only a few neuromuscular disorders have a similar reflex.

The following case illustrates some of the features mentioned.

A 50 year old colored female was admitted to the wards with cardiomegaly and hypertension of 206/108. It was soon realized that the cardiac enlargement was due to a pericardial effusion. The pericardium was tapped, and the fluid was noted to have a peculiar sheen. Examination of the fluid revealed cholesterol crystals. This led to a more careful evaluation of the patient and revealed the diagnosis of myxedema. Following therapy, the heart returned to almost normal size, but the blood pressure remained elevated.

The second case is interesting in that it represents a case of medically induced myxedema. The patient, a 37 year old white female, was admitted for control of a supraventricular tachycardia. Numerous attacks had occurred in the past. Following conversion to a sinus rhythm, one observer thought the patient's facies and slow speech suggested the possibility of myxedema. The myxedema reflex was present, and other studies confirmed the diagnosis. It was later learned that the patient had recieved I^{131} therapy at another hospital. In spite of developing clinical myxedema, the patient continued to have frequent attacks of tachycardia. In this case thyroid did not alter the tachycardia, but it did make the patient feel better. This case is presented only to show that tachycardia can be present in myxedema.

Most cases of hypothyroidism exhibit angina only after receiving thyroid medication. A few cases will have angina prior to therapy and will show improvement following treatment. Patients with myxedema respond very well to extremely small doses of thyroid. The medication should be started in small doses and increased very slowly over a period of weeks to months. If increases are sudden, the patient may expire either from a myocardial infarction or congestive failure.

Constrictive Pericarditis

Patients with constrictive pericarditis are often initially diagnosed as having cirrhosis of the liver. They present with symptoms of ascites and edema of the lower extremities. Dyspnea is only a minor complaint and is most often present only on exertion. As a result of rapidly forming ascites, these patients frequently undergo many abdominal paracenteses before the diagnosis is suspected or recognized.

The diagnosis is usually made after the

observation of greatly distended neck veins when the patient is in the sitting or reclining position. In spite of venous pressures of 25 cm. of H_2O or higher, the patient has little or no orthopnea. This finding, in the presence of ascites, is very suggestive of constrictive pericarditis.

To consider constrictive pericaditis only in the presence of a small quiet heart and a low blood pressure is unwarranted; the heart may be slightly enlarged and the blood pressure within the normal range.

Diagnosis is greatly simplified if calcification of the pericardium is demonstrated in the presence of a markedly elevated venous pressure. This calcification is not always visible and at times is seen only on oblique and lateral x-ray views. One must remember, however, that calcification alone does not necessarily imply constriction. X-ray examples are seen in Figures 3 and 4.

Other findings are a pulsus paradoxus and a third heart sound heard in diastole. This sound is similar to the opening snap of mitral stenosis.

Occasional cases of long-standing heart disease are seen with high venous pressures, clear lungs, ascites and edema of the lower extremities. As the heart may be enlarged in cases of constrictive pericarditis, the differential between these cases becomes quite difficult. Cardiac catheterization may be of some aid, but frequently surgical exploration is the only means of differentiating the two.



Figure 3.—Constrictive pericarditis



Figure 4.—No constriction

Recently a 47 year old colored male was seen at Charity Hospital with the following story and findings: The patient had been admitted on numerous occasions for abdominal paracenteses. In spite of a venous pressure of 34 cm. of H_2O the lungs were clear, and the patient had no orthopnea. The patient's serology was positive, and an aortic regurgitation murmur was present. The heart was slightly enlarged in size. Because constrictive pericarditis was a possibility, the patient had cardiac catheterization. The results were confusing in that the typical curve for constrictive pericarditis was present, but, in addition, the patient had a marked increase in cardiac output following rapid digitalization. This response to digitalis suggested myocardial failure as the primary defect. Another problem to be considered was whether constrictive pericarditis, if present, served as a safety valve to protect the lungs and left ventricle in the presence of aortic regurgitation. After much discussion the patient was explored, and a constrictive pericardium was found. Pericardectomy was very difficult and almost resulted in the patient's demise.

The patient recovered from the surgical procedure and slowly showed marked clinical improvement. He has remained on digitalis but no longer develops ascites or requires hospitalization.

Diagnosis of constrictive pericarditis should be mde early, as long standing cases develop myocardial atrophy. If atrophy is extensive, then surgery will only harm the patient. In other cases calcification may extend into the myocardium and make pericardectomy an extremely hazardous procedure.

Pickwickian Syndrome

This form of heart disease is occasionally seen in patients with extreme obesity. These patients develop pulmonary hypertension, cyanosis and right ventricular hypertrophy.

This entity has received much attention in the recent medical literature. It has been called "Pickwickian Syndrome," "Fat Man's Heart," "Heart Disease due to Hypoventilation" and "Heart Disease due to Obesity." Once the syndrome had been described, then many doctors were able to recall similar cases that had been difficult to explain.

In these very obese patients the work of breathing is supposedly greatly increasd. As a result they tend to hypoventilate. This hypoventilation results in hypoxia and CO_2 retention. The hypoxia in turn leads to pulmonary hypertension, cyanosis and polycythemia. The increased work placed on the right ventricle results in dilatation and hypertrophy and, eventually, in right-sided cardiac failure.

The CO_2 retention frequently produces a picture of somnolence. As the patient sleeps, he ventilates even less, and the cyanosis becomes more marked; Cheyne-Stokes respiration may even be present. The increased cyanosis does not appear to bother the patient, but the doctor becomes quite alarmed unless the diagnosis is recognized.

Studies reveal the following findings: Pulmonary function reveals a marked decrease in the vital capacity and tidal air. The timed vital capacity is normal, indicating no bronchospasm. The end alveolar air and blood arterial studies reveal a decreased P_{O_2} and an increased P_{CO_2}. The CO_2 content is high both in arterial and venous blood. Blood counts may or may not reveal polycythemia. The electrocardiogram may reveal right axis deviation and right ventricular hypertrophy. X-rays and fluoroscopy are usually unsatisfactory due to the marked obesity.

If the patient reduces to a respectable weight the entire picture disappears. One must remember, however, that many obese patients, without heart disease and without the Pickwickian syndrome, complain of orthopnea and dyspnea on exertion. Why most extremely obese patients fail to develop the syndrome is unknown.

Summary

In summary, four types of remediable heart disease have been discussed. It has been stressed that only through correct etiological diagnosis can heart disease be treated correctly. It is further emphasized that correct diagnosis can be achieved only by complete evaluation of the patient.

Elbow Out of the Window Injuries; A Follow up Study of 50 Cases*

• That fractures sustained from riding with the elbow out of the automobile window can be serious is shown in this study of 50 cases from the records of Charity Hospital over the last ten years personally observed by the author.

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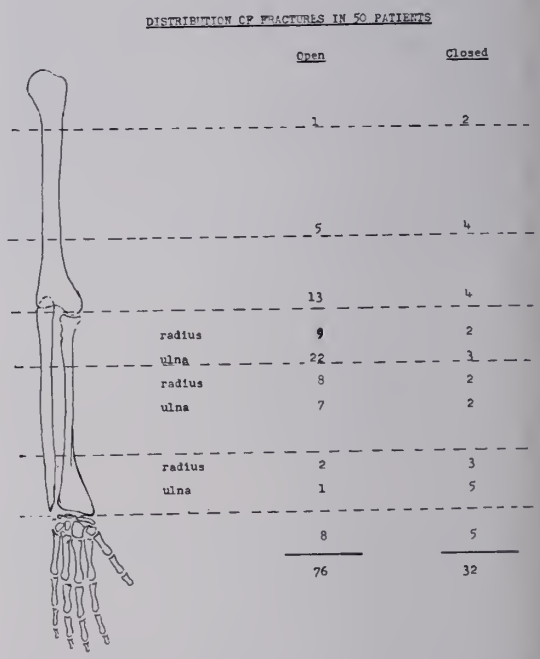
ELBOW injuries incidental to side-swipe or roll-over auto accidents are becoming more and more commonplace despite the fact that modern cars are becoming more and more roomy. Why it is that the window sill has great appeal for the elbow is a matter of conjecture. Certainly it is comfortable, but also dangerous, as I shall attempt to show you.

Watson Jones [1] described this injury, as the "baby car fracture" in his textbook many years ago. Campbell's textbook [2] refers to this injury as bizarre and grotesque. However, other than an excellent eye-opening article by Thompson and Chambers [3] in 1953, there has been, to my knowledge, no cumulative series of these injuries reported.

An elbow out the window injury can vary anywhere from a mild abrasion to a most devastating crushing avulsion type injury resulting in amputation. From the standpoint of fracture, we have seen them vary from a closed, relatively minor injury such as a fracture of the radius, to a severe open segmental comminuted fracture of all three long bones of the extremity.

Type of Injury

In this series of 50 cases, taken from records of Charity Hospital over the past ten years, and personally seen and reviewed by me, the fractures sustained were as shown in Figure 1. As can be gathered, most of these injuries resulted in multiple fractures. The most frequent



combination as reported by Watson Jones is "always a comminuted fracture of the olecranon, forward dislocation of both bones, fracture of the midshaft of the humerus, and fracture of the shaft of the ulna . . . ." In this series, the combinations were as listed in Table 1.

TABLE 1
MOST FREQUENT COMBINATIONS OF FRACTURES

Shaft of the radius, ulna, and humerus, with or without dislocation at the elbow	7
Shaft of the radius, and ulna, with or without dislocation at the elbow	6
Fracture of the humerus alone	6
Fracture of the olecranon and humerus	5
Monteggia fracture dislocation and fracture of the humerus	5
Fracture of the radius alone	3
Fracture of the ulnar shaft alone	3
Fracture of the olecranon alone	3

* Presented at the Seventy-eighth Annual Meeting of the Louisiana State Medical Society, May 7, 1958, in Shreveport.

Many of these injuries also had large soft tissue avulsions, as well as associated neurovascular lesion present in the affected extremity. Other injuries were occasionally found elsewhere, although this was not a common feature. (Table 2)

TABLE 2
ASSOCIATED INJURIES

Elbow Region	
Nerve injury:	
Radial	8
Median	5
Ulnar	5
Dislocations:	
Shoulder	1
Radial head	13
Distal Radio-ulnar joint	1
Elbow joint	3
Finger joints	1
Arterial Injuries	4
Muscle Avulsion	16

Needless to say, from such a serious injury, complications were not particularly infrequent. They were present in about 20 per cent of cases.

TABLE 3
COMPLICATIONS

Amputations	5
Infection	3
Gangrene	1
Chronic osteomyelitis	1
Death	1

Treatment

Since the majority of injuries were the open type, primary surgical treatment consisted of extensive and thorough debridement. This was followed at the time, or later, by definitive surgical management. A listing of the surgical procedures undertaken in this group of patients is presented in Table 4.

TABLE 4
SURGICAL PROCEDURES

Debridement	35
Open reduction	23
Internal fixation	13
Bone graft	10
Skeletal traction	9
Amputation	5
Excision of radial head	4
Revision of stump	3
Secondary closure	3
Stellate block	3
Split thickness graft	3
Excision collateral bands	2
Arthrodesis elbow	1
Excision ulnar head	1

Results

As for the ultimate functional recovery in this group, following soft tissue healing, solid bony union of the fractures, and a variable amount of physiotherapy, Table 5 tabulates the results in the patients who could be followed.

TABLE 5
FUNCTIONAL RECOVERY

A. E. Amputation	5
Prosthesis	4
Elbow motion:	
Fused	3
0-50°	4
50-100°	9
100-full	17
Instability	3
Disability:	
Shoulder	3
(Fusion—1)	
Hand	10
Pronation-Supination:	
None	2
Less than one-half	11
More than one-half	15

Case Reports

To cite but a few examples of the more severe type of injury seen at Charity Hospital, the following group of patients are presented.

Case No. 1.—H.P., a 31 year old colored male, on August 28, 1954, while riding in the right front seat, with arm hanging from the window, was involved in a side swipe injury with a tree. When seen eight and a half hours later, the patient on examination had an open Monteggia fracture, with fractures of the d/3 humerus, m/3 radius and ulna, and dislocation of the radial head. There was *no* radial pulse, a strong ulnar pulse, and *no* neurological deficit.

He was taken to surgery on admission, following administration of mixed serum and antibiotics, and a thorough debridement undertaken. The wound over the volar forearm was closed loosely. Postoperatively, he was treated in skeletal traction with pins through the distal forearm, and proximally in the olecranon. The general over-all position and alignment was far from perfect, but as good as could be secured by manipulation and traction at the time. About ten weeks later, a long arm cast was applied, and shortly thereafter all drainage had ceased. Ultimately, the radius went on to union in malposition, and the ulna developed a gross nonunion. A subsequent excision of the radial head, and step

cut resection of the ulna with plating and grafting achieved satisfactory union. This patient now works as a farm hand at unrestricted hard labor.

Case No. 2.—J.H., a 24 year old colored male, while driving intoxicated with his left elbow resting on the sill, was sideswiped by a truck. Nine hours later, this patient was admitted to Charity Hospital in New Orleans, and examination at that time revealed a large laceration over the elbow with an open Monteggia fracture; fracture of the m/3 of the radius, fracture of the capitellum and medial epicondyle, and a closed fracture of the m/3 of the humerus. There was no neurovascular deficit.

After receiving penicillin and mixed serum, he was taken promptly to surgery, where a thorough debridement, reassembly of the fragments, and closure were performed; and a posterior splint applied. Healing was per primum, but because of malposition of the fragments a subsequent reconstruction with osteotomies and correction of the deformity had to be undertaken. In addition, the radial head was excised. After successful healing, he now works as a manual laborer without difficulty.

Case No. 3.—A.L., 32 year old housewife, at 5 A.M. while driving intoxicated, was involved in a sideswipe accident. She was momentarily stunned, but did not lose control of the car. Upon recognizing the injury, she drove to a nearby police station, from where she was brought directly to Charity Hospital in New Orleans. On admission, examination revealed a massive avulsion of skin and subcutaneous tissues over the elbow area. There was marked comminution of the p/3 radius and ulna, and a closed m/3 fracture of the humerus. Although pulsations were good, there were ulnar and radial nerve palsies present.

She was taken to surgery promptly, where debridement and assembly of the comminuted fragments was undertaken insofar as was possible. The ulnar nerve was intact, and was transposed anteriorly. Closure was made over a drain, and postoperatively, she too, like the first patient, was treated by skeletal traction through the distal forearm. Because of distraction of the humerus, the treatment was soon changed to a posterior supportive plaster slab. It was at this time that the fingers began to swell and stiffen; and an open reduction on the humerus was done to facilitate mobility of the extremity. However, the stiffness persisted which later necessitated capsulotomies. At present she has a full neurological return, a persistent but useful pseudoarthrosis near the elbow, minimal stiffness of the fingers, and painless motion on use of the extremity.

Case No. 4.—H.P., a 19 year old colored male, while riding as a passenger late at night, returning to New Orleans from Gulfport, Miss., sustained a side swipe injury to his right elbow, when the car in which he was riding was overtaking a truck going in the same direction. He was taken immediately to the hospital in Gulfport, where examination revealed open fracture of the m/3 of the radius and ulna, and a closed fracture of the m/3 of the humerus, without neurovascular deficit.

Debridement was performed promptly, and at the same time definitive open reduction of all three fractures was undertaken with use of intramedullary Rush nails. Healing was per primum, and although union of the fractures was slow, he progressed satisfactorily. Since extraction of the nails, range of motion has improved considerably, and the patient is now employed successfully as a truck driver without significant disability.

Case No. 5.—K.R., a 20 year old white male, while a front seat passenger enroute on a fishing trip early one morning, sustained a crushing injury to his right elbow, when the car in which he was riding went out of control and overturned. When seen at Charity Hospital in New Orleans about fourteen hours later, examination revealed an open Monteggia fracture without neurovascular deficit, and a closed m/3 fracture of the left femur.

He was taken promptly to the operating room, and debridement and open reduction performed, utilizing an Eggers onlay plate. Healing and union were uneventful, and the patient regained complete return of painless function. The plate was subsequently removed, and he is now employed as an assistant in a dental laboratory.

Summary

In conclusion, I would like to remark that the severity of the elbow out of the window injury is a variable thing, and its treatment has to be on an individual basis. However, from a review of the results of treatment from these few cases, it appears that in these injuries where skin coverage is possible, contamination is not excessive, and loss from comminution is minimal, a definitive procedure would be in order at the time of debridement, to reassemble the fragments, maintaining them in their proper relationship by internal fixation if necessary. It is felt that this gives the best chance for early recovery of function and lessened overall disability, with numerous reconstructive procedures. Better yet, preventive treatment would be the ideal; for

such we should adopt the Burma Shave slogan—

"Don't put your elbow out so far,
It may go home in another car".

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Discussion

Dr. Roy H. Ledbetter (Monroe) I would like to congratulate Dr. Rieth for the success which he has demonstrated in dealing with an injury which can be so catastrophic. Certainly, I am in accord with Dr. Rieth that the extent of injury following such an accident is variable and at times bizarre. Therefore it is impossible to establish hard and fast rules in the treatment of sideswipe elbow injuries. The one cardinal principle in handling these injuries, in my opinion, is to prevent infection.

At the time of the initial evaluation of such an injury, the decision must be made whether or not the extremity can be salvaged for further reconstruction. If the arm can be saved, half of the battle will be won by performing a thorough and proper debridement which will lead to primary healing without infection. If suppuration develops, convalescence will be long and drawn out with necessary delay in reconstructive surgery. Primary wound healing, on the other hand, will permit going ahead with appropriate reconstruction at a relatively early date and a shortened convalescence. This is our prime responsibility. With this in mind, I believe that primary internal fixation with metallic devices should be undertaken only if such a procedure does not jeopardize the integrity of the wound and its prompt healing.

Health of the City

Our city presents a singular spectacle at the present time. Whilst every one of its hospitals is full to overflowing, and several additional houses have been appropriated to hospital purposes, we are sure our citizens never enjoyed a greater degree of health at this season of the year. * * * Sickness generally decreases here as the summer advances, unless yellow fever becomes epidemic; and, with the exception of this occasional visitation, the summer, contrary to the prevailing opinion abroad, is always the healthiest season of the year in New Orleans. Whence then the host of invalids now crowding our hospitals? It consists of Foreign Immigrants (chiefly Irish) and the sick and discharged soldiers returning from the United States Army in Mexico. The foreign immigrants are the most miserable looking set of poor, half-starved wretches, worn out by the combined horrors of a long sea voyage, ship fever and bowel complaints, ever seen. The poor Volunteers, exhausted by the hardships of a camp life and camp diseases, and many of them mutilated on the bloody battle field, present an aspect equally horrible, and far more calculated to excite our sympathies, for they are our own brave and patriotic fellow-citizens, who, at the call "to arms," forsook the comforts and endearments of home, and voluntarily sacrificed themselves in defence of their country's honor.

New Orleans M. & S. J. 4:133 (July) 1847.

Otolaryngologic Management of the Allergic Child

• In the treatment of the allergic child it sometimes becomes necessary to correct otolaryngologic defects and cure complicating infections before any advance can be made in controlling the allergy.

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AFTER having practiced otolaryngologic allergy for ten years, one fact concerning management of the child with upper respiratory tract allergy has become obvious — best results are achieved in those cases wherein a combination of allergic and otolaryngologic therapy is used rather than when there is rigid adherence to one type to the exclusion of the other.

It must be admitted that the greatest barrier to achieving this happy blending of therapy is the attitude of the specialists themselves. This is born largely of ignorance as to what their colleagues have to offer in reversing the pathologic physiology present. A pressing need today is for allergy training programs in which otolaryngology is taught and for otolaryngology residencies in which instruction in applied allergy is offered.

In this presentation we shall indicate some otolaryngologic procedures which the general allergist should find helpful in the management of such children.

Nasal Smears

We are absolutely unable to comprehend how anyone can adequately manage an allergic individual over a period of time without resorting to frequent *personal* microscopic examination of the nasal or postnasal secretions. Cytologic study is invaluable in determing whether exacerbation of symptoms is due to allergy or to complicating infection, and, should the latter be the case, for following the course of the disease.

* Presented at the Seventy-eighth Annual Meeting of the Louisiana State Medical Society, May 7, 1958, in Shreveport.

Whenever stagnation of secretions occurs in the allergic nose, a neutrophilic response can be expected. Factors causing stagnation include swelling of the membranes during acute exacerbations of the allergy, nasal polyps, spurring, deviations, and dislocations of the nasal septum, hyperplasia of the mucous membranes, and hypertrophy of the nasopharyngeal lymphoid tissue. If, on repeated cytologic examination, there is persistent neutrophilia together with the presence of large amounts of bacteria, the possiblity of bacterial allergy should be strongly considered.

Tonsillectomy and Adenoidectomy

Volumes have been written on the pros and cons of tonsillectomy and adenoidectomy in the allergic child.

Our experience is that the indications for this surgery in the allergic child are the same as in the nonallergic child. Furthermore, because we know of asthma having subsequently developed in only 3 of more than 1000 allergic children who have had surgery, we do not feel that it can be said that the operation adversely affects the course of the disease.

We are of the opinion that surgery can prove a very valuable adjunct in the management of these children in certain cases. It should be remembered that enlarged tonsils and adenoids block the posterior nares and so predispose to stagnation of secretions, a condition predisposing to overgrowth of bacteria and all of its consequences, including, we are certain, the development of bacterial allergy.

It has been our experience that, if the

allergy is mild, removal of enlarged tonsils and adenoids which narrow the posterior nares will often provide sufficient increase in nasopharyngeal space to enable the patient to better manage his secretions. When the nasal condition is more severe, removal of hypertrophied lymphoid tissue will generally give some improvement but will not be as beneficial as in mild cases.

In every case of allergy in which surgery is advised, one should be sure the parents understand that the operation will not "cure" the allergy but may make control somewhat easier to achieve. We believe that a large proportion of the unsatisfactory results of tonsil and adenoid surgery is due to failure to recognize prior to operation the allergic basis of the symptoms.

Management of Secretions

Measures which help the patient to eliminate thick mucoid secretions from the nose and paranasal sinuses are extremely valuable. In addition to producing symptoms, such secretions act as ideal culture media for bacteria.

In older children secretions may be removed either by spot suction or by use of the Proetz displacement method; at times the improvement obtained is amazing. We have, on numerous occasions, seen children resist all therapeutic measures until the secretions were manually removed. This is particularly true in many cases of persistent and intractable allergic cough. The lymphatic communication between the nasal and paranasal spaces and the peribronchial areas makes sino-respiratory disease a reality and one of the most frequently mismanaged conditions in pediatrics. Many chest X-rays are taken; it is unfortunate that the examination usually stops there. In every case of so-called "asthmatic bronchitis" the upper respiratory tract should be thoroughly investigated.

Nasal Vasoconstrictors

The use of nose drops is controversial among otolaryngologists. Some prefer the use of oral vasoconstrictors for symptomatic relief. We feel that the short-term use of nose drops is beneficial in those instances in which there is stagnation and thickening of secretions: being liquid, they reduce the surface tension of the mucus and make possible easier elimination, while oral vasoconstrictors tend to increase thickness. Our preference is a vasoconstrictor-prednisolone spray combination, using the initial tissue saturation method; the preparation is used for only a few days and not for prolonged periods.

Two practical points concerning the use of nasal sprays deserve emphasis. When secretions are very thick, some type of hand suction should be used to clear the anterior part of the nasal passage so that the solution can better contact the membranes; this is particularly true in the case of very young children. Since the first application only reaches the anterior portion of the nasal cavity, a second should be used approximately five minutes after the first to shrink the posterior portion. Should the child be old enough to effectively evacuate secretions by blowing, this should be done following the second application; if too young for this, the mother should accomplish this with a nasal aspirator.

When the secretions are not so thick, we use an oral vasoconstrictor-antihistamine combination, the proportion and dosage varying to the age of the child.

Middle Ear Disease

Secretory otitis media in children is one of the most insidious, potentially most dangerous, and yet most frequently overlooked conditions.

It is our opinion, based on clinical experience and hearing surveys in school children in the State of Louisiana, that secretory otitis occurs much more often in the allergic than in the nonallergic child; in fact, we can confidently go a little further and state that it is fairly commonplace. Thus, the allergist should be on the lookout for its development. Parents or teachers may note evidences of hearing difficulty if the condition is bilateral; if unilateral, the loss may not be so obvious. At times, the speech of the

child may suffer because of the impairment, inasmuch as speech patterns develop as a result of hearing.

Failure to detect and adequately treat secretory otitis may lead to organization of fibrous tissue within the middle ear cavity and permanent irreversible hearing loss. Immediate tympanotomy is usually mandatory; following this, measures which will relieve interference with normal Eustachian tube function should be undertaken.

Anatomic Abnormalities of the Nose

It is not unusual to encounter children whose upper respiratory allergic disease is aggravated by anatomic abnormalities of the external nose or nasal septum. The external nose may be deviated from the midline, or perhaps the septal cartilage has been dislocated from its normal position on the vomer or maxillary crest; occasionally there may be thickening of the cartilagenous septum or even reduplication of that structure.

Such abnormalities are usually due to trauma sustained by the child sometime during his brief life. Quite often they result from a long-forgotten fall, but, in many instances, they are traceable to injury at birth. Compression of the cartilagenous portion of the nose occurs even during normal labor and delivery; however, during prolonged labor and difficult delivery, compression is accentuated and frequently leads to the above mentioned conditions.

These dislocations cause a decrease in the nasal airway and interfere with normal nasal physiology. In some cases the valvular function of the upper lateral cartilages is impeded; in others, the integrity of the all-important middle meatus is compromised. In still another group of cases impactions and pressure points occur between the septum and the middle turbinates. The following case reports are illustrative:

Case No. 1. G. W., white male, age 5 years. The mother gave a history of recurrent left hemicranial pain for eight months. An ophthalmologist and several pediatricians had been consulted. There was no history of particularly significant trauma. The pain was worse when patient had upper respiratory infections and episodes of nasal blockage.

Examination revealed pale nasal mucosa and thickening of the nasal septum with impaction against the left middle and superior turbinate. The nasal smear revealed a diagnostic amount of eosinophiles. Skin tests resulted in large reactions to house dust, atmospheric mold mixture, and stock respiratory vaccine. The patient was seen on one occasion when he had been suffering with headache for three days continuously: mucosal shrinkage and anesthetization of the pressure points completely eliminated the headache.

On April 1, 1957, a partial submucous resection was done. The patient has been asymptomatic since that time.

Case No. 2. M. F. white male, age 12 years. This patient was first seen in consultation from another otolaryngologist. The mother gave a history of the boy having continuous nasal blockage, coughing, mouth breathing, snoring, an extremely offensive odor from the nose, and hearing difficulty since the age of 3. A T. & A. had been done at age 4 with no improvement in his symptoms. From that time on many generalists, pediatricians, and otolaryngologists had been consulted; none suggested that the child had an allergy until the referring physician did.

Examination revealed the presence of a tremendous amount of extremely foul-smelling mucopurlent exudate (N 3-plus, E 1-plus) in both nasal passages, a dislocated nasal septum which caused about 70 per cent reduction in the left nasal airway, regrowth of adenoid tissue, bilateral secretory otitis media with a bilateral hearing loss averaging 30 decibels, and skin sensitivity to house dust, goose feathers, tree pollen, ragweed pollen, and Hoffman BAC respiratory vaccine. X-rays revealed diffuse cloudiness of all paranasal sinuses.

Hyposensitization therapy combined with otolaryngologic management was started. On repeated Proetz displacements there continued to be a 4-plus return of mucopus; this was so malodorous that the treatment room used had to be deodorized after each procedure.

On August 19, 1956, a secondary adenoidectomy and bilateral tympanotomies were done; this resulted in little improvement. On September 13, 1956, a test of treatment with hydrocortisone was begun; this resulted in about 50 per cent improvement at the height of this therapy combined with antibiotics. Allergy was continued, and on November 11, 1956, a submucous resection was performed under general anesthesia. By December 6, 1956, the patient had shown marked improvement and has been under complete allergy control until this time.

Case No. 3. D. A., white male, age 8 years. This patient had been under treatment at the



Figure 1a. Almost ticlike maneuver patient used in order to inspire air through blocked left nostril. Blockage was due to deviation of the caudal end of the nasal septum.



Figure 1b. Respiration normal following correction of caudal deviation. Maneuver to permit breathing is no longer necessary.

Allergy Clinic of the Eye, Ear, Nose and Throat Hospital for about seven months, without satisfactory response. As can be seen (Figure 1a), he had developed the habit of elevating the entire left cheek in order to breath through the left nostril.

Examination revealed an S-shaped deformity of the caudal end of the nasal septum. This was corrected (Figure 1b) and has resulted in disappearance of the habit, normalcy of the airway, and satisfactory control of the allergy by hyposensitization therapy.

Discussion

Successful management of the child with upper respiratory allergy requires a dual approach:

1. Elimination of those factors which would interfere with normal physiology if the child were not allergic, and

2. Competent management of the allergy

The former, which has been the subject of this presentation, resolves itself, in a large measure, to eradication of foci of chronic infection whether they be located in the paranasal sinuses, the lymphoid structures of Waldeyer's ring, or in pools of stagnant nasal secretions.

The importance of this aspect of treatment will be appreciated if we recall the vicious circle which often becomes established following repeated acute exacerbations of chronic infections in the allergic child. After each flare-up, the allergy seems to return to a higher level until, eventually, the influence of the infection on the allergy is so great and the allergic threshold so low that neither anti-infective nor specific antiallergic therapy seems to influence the disease state to a marked extent. Such children pose a tremendous therapeutic problem. In our experience, the use of the procedures described above have proved extremely satisfying in most cases.

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Editorial

Officers of the Louisiana State Medical Society For the Coming Year

At its Annual Meeting, the Louisiana State Medical Society chose officers for the coming year, and again they were physicians of such calibre as to do honor to the Society and credit to themselves.

Dr. W. Robyn Hardy of New Orleans was installed as President at the Seventy-ninth Annual Meeting. Dr. Hardy is a well known surgeon of New Orleans, and his range of experience from committee chairman to head of the House of Delegates, over a period of some years, has served to give him a comprehensive view of the workings of medicine and its urgent needs. The membership feels confident that the organization will be directed by one who is resourceful, conscientious, and ever-mindful of their best interests.

The President Elect is Dr. O. B. Owens of Alexandria, who richly deserves the position of honor to be awarded to him next year. There are few members who have given the years of devoted and conscientious service or who have been as diligent in executing assignments as Dr. Owens. In addition, he is gifted with a scintillating sense of humor which bursts into expression often enough for Tommy Hendricks to call him the Poet Laureate of the A.M.A.

Dr. Arthur D. Long of Baton Rouge becomes past president after administering the office with great distinction through a difficult year. His valued counsel on the Executive Committee will be as welcome now as in the many years he has been a member. The Society congratulates him.

The first vice president is Dr. William C. Rivenbark of New Orleans, a noted pediatrician. Dr. Rivenbark has been active in the affairs of the Orleans Parish Medical Society over a period of years, and in the Pediatric Section of the State Society, he has administered their affairs most creditably. He was General Chairman of Arrangements for the highly successful and pleasurable Seventy-ninth

Meeting of the Society recently held in New Orleans. Dr. Rivenbark represents a seasoned and experienced physician with mature judgment and will be a valued councilor in the affairs of the Society.

The second vice President is Dr. P. L. McCreary of Lake Charles, an ophthalmologist, well known to the House of Delegates for many years through his activities on the Credentials Committee. Dr. McCreary's previous training and experience, and his highly creditable services to his local society make him a welcome addition to the Executive Committee and its deliberations.

Elected as A.M.A. delegates were Dr. Arthur A. Herold of Shreveport for 1959, and Dr. Ralph H. Riggs of Shreveport for 1960 and 1961. Dr. Arthur A. Herold is a distinguished Past President of the Society, and served as delegate to the A.M.A. thirty years ago and again as alternate when Dr. J. Q. Graves passed away last December. Dr. Ralph H. Riggs has been an energetic, resourceful, and peerless leader of organized medicine in Shreveport for some years, has served the Society as Vice-Chairman of the House of Delegates, and as Councilor for the Fourth District, with effectiveness and vision. He brings to the office, as one of your representatives in the national organization, a combination of qualities which assure him of meeting its responsibilities with distinction and credit.

Dr. C. E. Boyd of Shreveport was elected Councilor for the Fourth District. His previous activities have been a source of excellent experience for his membership on the Council and in the Executive Committee. He has served in many capacities effectively in his local organization and was Chairman of the Committee on Public Policy and Legislation for the State Society in one of its most difficult and trying years, and has continued active on this Committee most effectively since. Dr. Boyd will be welcomed as an experienced member and devoted servant in the administration of the affairs of organized medicine.

All other Councilors were reelected and the membership of the Executive Committee is otherwise unchanged.

Dr. C. Grenes Cole continues as Secretary-Treasurer to the great satisfaction of the membership and to the profound benefit of the administration of its affairs. The happy position of the Louisiana State Medical Society today, and the unusually fortunate conditions of practice in this State are due more to his foresight, judgment, and resourcefulness than to any other living member. The Society today is facing a legal crisis in the Federal Courts brought on by the chiropractors. In this Dr. Cole's stability of judgment and foresight will be of untold value, now as in the past. The membership of the Society is most fortunate in his devoted service.

Many of the members of the Louisiana State Medical Society and the public in general have only a faint realization of the valuable function this organization serves in maintaining standards, and providing suitable channels through which knowledge existing as the science of medicine can be made to flow and become formed as the art of medicine. Our organization in the past may well be proud of the officers who have been chosen to administer its affairs, who have met their responsibilities creditably and discharged their duties faithfully. The Society can be equally confident that in the present group it has done honor to itself and to those whom it has elected to office.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

ABSTRACTED MINUTES
HOUSE OF DELEGATES
May 4-6, 1959

Minutes

Minutes of 1958 meeting of *House of Delegates* approved as recorded.

Minutes of meetings of *Executive Committee* since 1958 meeting of House of Delegates approved.

Special Order

Introduction of new members of *House of Delegates.*

Talk by Dr. Gunnar Gundersen, *President of AMA.*

Talk by Mr. Tom Hendrichs, *Assistant to the Executive Vice-President of the AMA.*

Talk by Mr. Paul S. Fisher, *Vice-President, Continental Casualty Company.*

Greetings from *representatives of the Woman's Auxiliary* of the State Society and of the AMA.

Announcement of *scientific exhibit awards:* First place, Dr. Page W. Acree; second place, Dr. Homer D. Kirgis.

Announcement in re *National Emergency Medical Service course* to be held during AMA meeting.

Announcement re the State Diabetes Association, with cooperation of the National Diabetes Association, sponsors an *exhibit at Medical Progress.*

Reports without Recommendations

Following *reports accepted as printed*:—Secretary-Treasurer, Chairman of Council, Councilors: First District, Second District, Third District, Fourth District, Fifth District, Sixth District, Seventh District, Eighth District; Committees: Accreditation of Hospitals, Aid to Indigent Members, American Medical Education Foundation, Arrangements—1959 Annual Meeting, Blood Banks, Budget and Finance, Child Health, Chronic Diseases, Committees, Congressional Matters, Diabetes, Gamma Globulin and Salk Vaccine, Hospitals, Industrial Health, Lectures for Colored Physicians, Liaison with Louisiana State Nurses' Association, Medical and Hospital Service in re Insurance Contracts, Medical Defense, Medical Education, Medical Testimony, National Emergency Medical Service, Neuropsychiatric Service at Charity Hospitals, Public Health of the State of Louisiana, Scientific Work, State Department of Public Welfare, State Hospital Policies and Medical Indigency, Woman's Auxiliary.

Other reports, containing no recommendations, accepted: Public Relations Counselors and Legislative Consultant.

Reports with Recommendations

President: Referred to Committee on President's Report and action taken as follows: 1. Committee on Public Policy and Legislation be continued in its present form and services of present Legislative Consultant be retained: Approved; work of Mr. Percy J. Landry commended. 2. House of Delegates set up means and mechanics deemed advisable for successful termination of legal action with regard to the Medical Practice Act: Approved. 3. Continued cooperation with the Shreveport Medical Society with reference to the Medical Progress Exhibit: Approved. 4. Activity of the Council on Medical Service and Public Relations and the present Public Relations Counselors be continued and expanded: Approved; work of Perret and Kalman commended. 5. Committee on Geriatrics continue under its present Chairman and be expanded to include members from all areas of the state: Agreed that appointment of chairman should be left to discretion of new president; recommendation approved, with this amendment. 6. Consideration given Medicare program in light of past experience: Matter to be left to Executive Committee for decision. 7. Clarification of Welfare Vendor Payment Plan: House of Delegates disapproved participation of the Louisiana State Medical Society in such a plan, Committee on Public Welfare of the Society be continued to work with the Department of Welfare of the State of Louisiana. 8. Approval of formation of liaison committee, composed of two members from each of the following organizations—Louisiana State Medical Society, Louisiana Hospital Association and Louisiana Nurses' Association: Approved.

Past Presidents Advisory Council: State Society purchase all copies on hand of Volume I and Volume II of the History of the Louisiana State Medical Society; details to be carried out by the Executive Committee and the Trustees of the Rudolph Matas Fund: Referred to the Committee on Budget and Finance. 2. Monies turned over by the Matas Fund to the Louisiana State Medical Society be used in furthering the History and keeping same up-to-date: Approved. 3. Recommendation of the Committee on History of Medicine in Louisiana that an Historian be selected, be endorsed; office of Historian be included in appointments by President who is so empowered: Recommendation deleted due to previous action of House of Delegates. 4. Free choice of physician

felt ideal but recognize its limitation of application in all cases; physicians not be judged on whether or not connected with a closed panel but whether or not practice is ethical: No action due to previous action of House of Delegates.

Committee on Alcoholism: 1. Physicians be encouraged to continue efforts in their local communities to help solve the problem of alcoholism: Approved.

Cancer Commission: 1. Members of Society further consider support and assistance in the development of tumor registries in hospitals throughout the State of Louisiana to the end of having a means of adequately auditing achievements in cancer diagnosis and therapy: Approved. 2. Members of Society consider the feasibility of establishing an intensive surgical therapy section along the lines of the one in operation at the Methodist Hospital in Houston, Texas, to the end of providing improved postoperative care for patients who have undergone extensive cancer surgery: Approved. 3. Members of Society avail themselves more fully of the cytologic diagnosis facilities now available and that they aid in the further development of such facilities throughout the state: Approved. 4. Members of Society attempt to budget their time so as to permit more frequent examination of the common sites of cancer in the course of doing physical examinations: Approved. 5. Members of Society in all parts of the state cooperate more fully with other groups vitally concerned with early diagnosis and adequate treatment of cancer: Approved. 6. Amount of five hundred dollars ($500.00) be budgeted for use, if necessary, by the Cancer Commission in carrying out its various functions during the forthcoming year: Referred to Committee on Budget and Finance.

Committee on Federal Medical Services: 1. Decision on renewal of a Uniformed Services Medicare Contract for the year 1959-60 to be made by the Executive Committee, based on the situation as it exists when Congress adjourns: Approved. 2. Reaffirm the policy that the medical care of service connected injuries and illness is the primary responsibility of the Veterans Administration and Federal medical care should again be limited to such a policy: Approved. 3. Reaffirm opposition to Federal plans for government hospitalization of OASDI recipients: Approved. 4. Appointment of a Committee on Federal Medical Services by each parish medical society: Amended to state "recommended that parish societies appoint committees on Federal Medical Services" and amended recommendation approved. 5. A copy of "Missiles or pensions" an address by Dr. Louis M. Orr, be sent to all members of the Society, as an enclosure with CAPSULES: Approved.

Committee on Geriatrics: Committee on Geriatrics be enlarged with spread of representation throughout the state: Approved.

Committee on History of Medicine in Louisiana: 1. Society make every effort to encourage members to purchase the "History of the Louisiana State Medical Society": Approved. 2. The Society select an Historian: Amended to state "President select a committee to appoint historian" and amended recommendation approved.

Committee on Journal: 1. Members and component societies submit scientific material for publication in the Journal: Approved. 2. Re-election of Dr. Edwin H. Lawson and Dr. E. L. Leckert as members of the Committee on Journal: Referred to Nominating Committee and recommendation for re-election by that Committee approved.

Committee on Louisiana Organizations for State Legislation: 1. This Committee be directly instructed concerning legislation being considered or proposed by the Louisiana State Medical Society, for presentation and discussion at meetings of Louisiana Organizations for State Legislation: Approved.

Committee on Maternal Welfare: 1. Bacteriologic examination of equipment, supplies and personnel of maternity divisions of all hospitals once every six months: Approved in principle. 2. Establishment of a registry for study of maternal and fetal deaths: Approved in principle. 3. Effort made to evaluate adequacy of existing maternal facilities in hospitals: Approved in principle.

Committee on Mental Health: 1. Following recommendations made by this Committee during the past two years be again given serious consideration: a. The Committee on Mental Health be made a standing committee of the Louisiana State Medical Society. (Rejected—1957); b. This Committee be recognized by the Louisiana State Medical Society as the body for liaison with the Governor and the State Department of Hospitals concerning matters of mental health. (Rejected—1957; tabled—1958); c. The Louisiana State Medical Society recommend to appropriate authorities that a fully qualified physician be secured to administer the state mental health program. (Rejected—1957; tabled—1958): Previous action of House of Delegates sustained.

Committee on Public Policy and Legislation: 1. Closer cooperation and communication be established between specialty medical groups and the Louisiana State Medical Society regarding legislative matters; each specialty group requested to appoint a legislative chairman to work with members of this Committee: Approved. 2. Continue first-aid station at Louisiana State Capitol: Approved. 3. Encourage each physician in the state to make at least one trip to the state legislature while it is in session and each physician personally contact his own Senator and Representative in Baton Rouge during the legislative session: Approved. 4. Any physician appearing before any legislative committee be required to

clearly state prior to giving any testimony his official connection or official lack of connection to the Louisiana State Medical Society regarding his testimony: Approved. 5. An intensified program by the Council on Medical Service and Public Relations to supplement the excellent radio transcription that was so effective prior to the last legislative session with newspaper advertisements in the rural newspapers regarding cultism: Approved. 6. Furnish each applicant for licensure by the Louisiana State Board of Medical Examiners with a complete Chiropractic kit: Approved. 7. Encourage the Louisiana State Board of Medical Examiners to let candidates for licensure in the State of Louisiana know that at least one question on the examination given by the Licensing Board shall concern cultism as a threat to private and public health: Approved. 8. Have each component society, working in cooperation with the district members of this Committee, organize a campaign to assure that each candidate for the Louisiana Legislature in the Autumn of 1959 be interviewed by his personal physician; the personal physician, prior to the interview, thoroughly review all material in the Chiropractic kit as prepared by the Council on Medical Service and Public Relations, and review in detail, with the candidate, the danger of cultism and the propriety of the Louisiana State Medical Society in advising on medical legislation: Approved. 9. State Society endorse the program of the Louisiana Mosquito Control Association: Approved. 10. State Society look into feasibility of joint penalty bill sponsored by the Bar Association, the Pharmaceutical Association and other certifying boards: Approved.

Committee on Resolutions: 1. A copy of these resolutions be sent to each person and organization mentioned and also published in the Journal of the Louisiana State Medical Society: Approved.

Committee on Rural and Urban Health: The sum of $1,000.00 be appropriated for activities of the Committee on Rural and Urban Health for 1959: Referred to the Committee on Budget and Finance.

Council on Medical Service and Public Relations: 1. An informal statewide survey of the many free services, both medical and non-medical, performed by members of the State Society, the results of which could be widely publicized and would result in great public relations value to the Society and to the medical profession: Approved. 2. Publicity support to new programs advanced by the AMA and professional groups in regard to providing adequate private medical care for the aged in order to combat the Forand-type bills: Approved. 3. Publication of an inexpensive brochure describing the values to be gained in belonging to the State Society, enumerating the work the Society performs, for distrubution to new members and use as a mailing piece in recruiting eligible non-members: Approved. 4. Chairman of all State Society committees be requested to report, through the office of the Secretary-Treasurer, news items which might be of interest to the public and the subject of news stories: Approved. 5. Prepare material for use in a special program for senior medical students in connection with the Annual Meeting, covering ethics, medical societies, et cetera: Approved. 6. Continue successful and proven projects, including publication of Capsules, participation in Medical Progress, et cetera: Amended to omit "et cetera"; amended recommendation approved.

Delegate to American Medical Association: Questionnaire from AMA in re free choice of physician and closed panel system: Free choice of physician approved; physician's ethics to be determining factor in re closed panel system.

AMENDMENTS

Constitution

Article IV. Section 2. (Associate Members): Adding "Associate Membership in a Component Society does not necessarily imply Associate Membership in the State Society" (approved at 1958 meeting) adopted.

By-Laws

Chapter XV. Section 9. Choice of Membership: No physician may hold membership in more than one parish society, but under any of the following circumstances any physician may, if he desires, hold membership in the society of a parish adjacent or near to his place of residence (rather than the parish in which he resides), subject only to the approval of the parish society in which he wishes to hold membership: (a) If he resides on or near a parish line; (b) if he resides in one parish but his office or a substantial portion of his practice is in another parish; (c) if he resides or practices in a metropolitan area which crosses parish lines: Adopted.

Other Action

Report of Louisiana State Board of Medical Examiners: Accepted; Drs. J. Morgan Lyons and M. D. Paine to be recommended to Governor for appointment in re expiration of term of Dr. Lyons.

House of Delegates on record as recommending to the component societies of the Louisiana State Medical Society that they take cognizance of the *problem of Tetanus* in Louisiana and adopt a program similar to the one now being carried out in Orleans Parish.

House of Delegates on record as disapproving aims and objectives of *National Foundation;* Society commends Foundation for accomplishments in polio and requests activity be confined to that field.

Following recommendation of *Louisiana State Pediatric Society* in re *school health programs,* approved: The Louisiana State Medical Society instruct its Committee on Child Health and the Committee on Rural and Urban Health to study the school programs of this state and to exert

their efforts toward making these programs superior and modern in every respect, working cooperatively toward these ends with the appropriate committees of the Louisiana Chapters of the American Academy of General Practice and the American Academy of Pediatrics, with the State Departments of Education and Health, the Parent-Teachers Association, The Louisiana Youth Commission and any other organizations which have a direct interest in the health of school children. The Louisiana State Medical Society suggests that broad policies be established cooperatively between these state organizations and departments and that the application of these policies to the local school systems be effected in a manner which is mutually acceptable to the parish school and health authorities and the parish or district medical societies, with particular emphasis on participation of the family physician or pediatrician in the child's school health examination and program. In the study and development of these school programs, the Louisiana State Medical Society urges the cooperation of its member physicians in their component parish and district medical societies.

Approval of establishment of a Committee on Insurance as a special committee of the State Society.

Approval of appointment, by the president, of a committee to review and revise the Charter, Constitution and By-Laws, with permission of seeking legal advice; this committee instructed to report to the proper body in time for the suggestions to be acted upon at the next Annual Meeting.

Election of Officers, Delegates and Alternates to AMA and Committees

President-elect—Dr. O. B. Owens, Alexandria

First Vice-President — Dr. W. C. Rivenbark, New Orleans

Second Vice-President — Dr. P. L. McCreary, Lake Charles

Third Vice-President—Dr. A. N. Houston, New Orleans

Chairman, House of Delegates—Dr. Charles B. Odom, New Orleans

Vice-Chairman, House of Delegates—Dr. H. H. Hardy, Jr., Alexandria

Councilor, Third District — Dr. Guy R. Jones, Lockport

Councilor, Fourth District — Dr. C. E. Boyd, Shreveport (1 year, unexpired term of Dr. Riggs)

Councilor, Sixth District — Dr. J. L. Beven, Baton Rouge

Councilor, Seventh District—Dr. J. Y. Garber, Lake Charles

Councilor, Eighth District—Dr. R. E. C. Miller, Alexandria

Delegate to AMA (1959) — Dr. A. A. Herold, Shreveport

Alternate Delegate to AMA (1959)—Dr. Ralph H. Riggs, Shreveport

Delegate to AMA (1960 and 1961) — Dr. Ralph H. Riggs, Shreveport

Alternate Delegate to AMA (1960 and 1961) —Dr. Arthur D. Long, Baton Rouge

Committee on Committees: Dr. E. L. Leckert, Chairman; Dr. J. Kelly Stone; both of New Orleans; Dr. Rhett McMahon, Baton Rouge.

Committee on Journal: Dr. E. L. Leckert and Dr. Edwin H. Lawson; both of New Orleans.

Committee on Medical Defense: Dr. W. A. Ellender, Houma.

Committee on Public Policy and Legislation: Dr. Jos. A. Sabatier, Baton Rouge, Chairman; Dr. Edwin L. Zander, New Orleans; Dr. J. E. Clayton, Norco; Dr. Leo J. Kerne, Thibodaux; Dr. C. E. Boyd, Shreveport; Dr. Henson S. Coon, Monroe; Dr. H. W. Richmond, Oakdale; Dr. F. P. Bordelon, Marksville.

Future Annual Meetings

Dates and Places: 1960 — Baton Rouge, May 2-4; 1961—New Orleans, May 8-10; 1962—Monroe; 1963—New Orleans; 1964—Alexandria.

COMMITTEE ON MEDICAL DEFENSE

During the year beginning March 1, 1958 and ending March 1, 1959, this Committee has been requested to furnish legal assistance in six new cases. The request for defense in one of these cases was later withdrawn, leaving a total of five cases recommended for defense. These cases, listed chronologically, are as follows:

Case #1. Claiming damages in amount of $157,612.86, charging "Negligent treatment and lack of professional skill and x-ray burn from the negligent use of the fluoroscope". This was in conjunction with a leg injury. On the basis of the recommendation of the special committee of the Lafourche Parish Medical Society this Committee recommended defense of the doctor.

Case #2. Suit in the amount of $50,048.00. Claiming malpractice because of the death of an infant from purulent meningitis. On recommendation of the Committee on Medical Defense of the Orleans Parish Medical Society, this Committee also recommended that the case be defended.

Case #3. Suit in the amount of $100,000.00. Claiming malpractice in the form of "negligently performed operation" in an accident case. Defense was recommended by the Committee of the Orleans Parish Medical Society, and approved by this Committee.

Case #4. Suit in the amount of $100,000.00. Complaint being "Negligence and/or malpractice", the outcome of treatment of injuries to the leg of the plaintiff. The case was reviewed by a committee of the Lafourche Parish Medical Society, which recommended defense and this was also approved by this Committee.

Case #5. Suit in the amount of $201,600.00.

Resulted from complications following a radical mastoidectomy. Case was reviewed by a committee of the Shreveport Medical Society which recommended defense for the doctor and this was approved by this Committee.

One case from last year was settled, by compromise, without coming to trial.

C. B. ERICKSON, M. D., Chairman

REPORT OF COMMITTEE ON RESOLUTIONS

The members and guests in attendance at the 1959 Annual Meeting of the Louisiana State Medical Society held in New Orleans May 4-6 wish to acknowledge, with thanks, assistance rendered by the following individuals and groups, therefore,

BE IT RESOLVED that the Louisiana State Medical Society express appreciation for assistance by the following:

Dr. Hugh T. Beacham, President and

Dr. W. C. Rivenbark, General Chairman, and personnel of Committees on Arrangements and all members of the Orleans Parish Medical Society, hosts to the meeting.

Rev. A. Charles Kenney who offered the invocation at the official opening meeting of the Society.

Hon. James E. Fitzmorris, Councilman of the City of New Orleans, for his cordial welcome to the city.

Dr. J. O. Weilbaecher, Jr. President of the New Orleans Graduate Medical Assembly, for his address of welcome.

Dr. Gunnar Gundersen, President of the American Medical Association, for his talk before the House of Delegates and for the Annual Oration presented at the opening meeting.

Mr. Tom Hendrichs, of the AMA, for his interesting talk before the House of Delegates.

Mr. Paul S. Fisher, Vice-President of the Continental Casualty Company, for valuable information concerning group insurance for members of the Society.

The following out-of-state guests who participated in the scientific program:

Dr. David G. Decker, Rochester, Minnesota

Dr. Edward S. Judd, Rochester, Minnesota

Dr. Theodore C. Panos, Little Rock, Arkansas

Dr. Elaine L. Updyke, Atlanta, Georgia

Dr. Buford Word, Birmingham, Alabama

The New Orleans Chamber of Commerce for cooperation in connection with many phases of the meeting, and particularly for secretarial assistance and typewriters furnished for use at the Registration Desk.

The New Orleans papers as well as the press throughout the State for publicity prior to and during the time of the meeting.

Radio and TV stations in New Orleans and throughout the state, for excellent cooperation in broadcasting specific phases of the meeting. The Roosevelt Hotel, Headquarters for the meeting, for excellent services rendered members attending the meeting, as well as facilities for various sessions in connection with the meeting; also other hotels and motels in New Orleans for accommodations furnished.

The Catholic Physicians Guild of New Orleans for arranging a Memorial Mass in memory of those members of the Society who died during the past year.

Mr. Paul J. Perret and Mr. Paul R. Kalman, Jr. who have rendered most valuable service prior to and during the meeting as Public Relations Counselors in securing publicity for the meeting; also for their report presented to the House of Delegates.

Mr. Percy J. Landry, Jr., Legislative Consultant, who has continued to be most helpful to the medical profession and for his informative talk before the House of Delegates.

Scientific exhibitors whose exhibits added much interest to the meeting.

Pharmaceutical, surgical and other companies for their continued cooperation in having technical exhibits.

All companies which purchased space for advertising in the Program.

The Metairie Country Club for facilities furnished for the golf tournament.

Dr. Edwin H. Lawson, Secretary of the Louisiana State Board of Medical Examiners for his report submitted to the House of Delegates.

Officers and members of the Woman's Auxiliary who prepared an interesting program for the members of the Auxiliary.

Dr. Arthur D. Long, who has served so capably during the past year as President of this organization.

The Past Presidents Advisory Council for report to the House of Delegates and their continued active interest in the organization.

Dr. Charles B. Odom, Chairman of the House of Delegates.

Dr. C. Grenes Cole, Secretary-Treasurer who has continued to render invaluable service to the organization.

Miss Annie Mae Shoemaker, Assistant Secretary-Treasurer, and the entire secretarial staff for their efficient handling of details prior to and during the time of the meeting.

Recommendation

It is recommended that a copy of these resolutions be sent to each person and organization mentioned and also published in the Journal of the Louisiana State Medical Society.

R. E. GILLASPIE, M. D., Member
RALPH H. RIGGS, M. D., Member
SAM HOBSON, M. D., Chairman

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

CANCER GROUPS APPOINT JOINT RESEARCH ADVISORY COMMITTEE

The Greater New Orleans Cancer Association, Inc., and the Cancer Society of Greater Baton Rouge, Inc., have made another step forward in their fight against cancer and take great pride in announcing their joint Research Advisory Committee. This Committee is composed of prominent individuals affiliated with the medical schools, hospitals and medical foundations in the state of Louisiana.

Dr. Oscar Creech, Jr.: Professor and Chairman of the Department of Surgery at Tulane University Medical School, who has done extensive work in cardiovascular and cancer surgery, will serve as chairman.

The following are members of the Committee:

Dr Walton R. Akenhead: Head of the Department of Medicine, L. S. U. Medical School.

Mr. E. V. Benjamin, Jr., President of the Urban Maes Foundation.

Dr. Fred G. Brazda: Head of the Department of Biochemistry at L. S. U.

Dr. William W. Frye: Dean of L. S. U. School of Medicine.

Dr. Clifford G. Grulee, Jr.: Associate Dean of the Medical School and Director of the Division of Graduate Medicine, Tulane University.

Dr. Henry W. Jolly, Jr.: Assistant Clinical Professor of Dermatology, L. S. U. School of Medicine, and Chief of Staff at Our Lady of the Lake Hospital, Baton Rouge.

Dr. Hymen S. Mayerson: Professor and Chairman of the Department of Physiology, Tulane University.

Dr. Albert L. McQuown: Clinical Associate Professor of Pathology, L. S. U. School of Medicine; Co-director, L. S. U. Department of Pathology; Director, School of Medical Technology at Our Lady of the Lake Hospital, Baton Rouge.

Dr. N. Gayle Monget: President of East Baton Rouge Parish Dental Association.

Dr. Rudolph J. Muelling: Coordinator of Cancer Teaching and Research at L. S. U. Medical School.

Dr. Paul J. Murison: Chairman of the Research Committee, Ochsner Foundation.

Dr. Joseph V. Schlosser: Assistant Professor of Medicine, Clinical Radiology, Tulane University School of Medicine; Associate Radiologist, Charity Hospital at New Orleans.

Dr. John H. Seabury: Assistant Professor of Medicine, L. S. U. School of Medicine and Director of Lung Station.

Dr. Floyd R. Skelton: Director of Urban Maes Foundation and Laboratory.

Dr. John Chaille Stovall: President of East Baton Rouge Parish Medical Society.

Dr. Joseph P. Tomsula: Radiologist at Our Lady of the Lake Hospital, Baton Rouge. Visiting Radiologist at L. S. U. School of Medicine.

The Baton Rouge and New Orleans cancer organizations feel that they are very fortunate in having such a group of interested men taking part in the placement of their research funds. The knowledge and experience in the professional fields represented, give this joint Research Advisory Committee an unquestionable understanding of the problems involved.

The Cancer Society of Greater Baton Rouge, Inc., in cooperation with the Greater New Orleans Cancer Association, Inc., plan on releasing Research Grants in the very near future.

WE ARE ALERTING YOU TO WATCH FOR NOTICES

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

Applications for certification (American Board of Obstetrics and Gynecology), new and reopened, Part I, and requests for re-examination Part II are now being accepted. All candidates are urged to make such application at the earliest possible date. Deadline date for receipt of applications is August 1, 1959. No applications can be accepted after that date.

Candidates are requested to write to the office of the Secretary, 2105 Adelbert Road, Cleveland 6, Ohio, for a current Bulletin if they have not done so in order that they might be well informed as to the present requirements. Application fee ($35.00), photographs, and lists of hospital admissions must accompany all applications.

THREE TULANE FACULTY MEMBERS RECEIVE AWARDS

Three young Tulane medical faculty members have recently received awards permitting them to conduct extensive research as well as continue teaching activities.

Dr. William G. Thurman, instructor in pediatrics, has been selected as a Markle Scholar and awarded $30,000 over a five year period. Dr. Thurman is specializing in pediatric hematology and is a participating member in the Southwest Cancer Chemotherapy Group.

Dr. Stephen J. LeBrie, instructor in physiology, has received a Lederle Medical Faculty Award of $21,312 over a three year period. He is engaged in studying renal lymphatics and endocrinology.

Dr. Henry C. Pitot, III, instructor in pathology, has been awarded a Lillian Israel postdoctoral fellowship, which is administered by the American Cancer Society. This is the second year in which he has received this fellowship. Dr. Pitot will continue studies on protein synthesis.

ANNUAL MEETING LOUISIANA STATE UROLOGICAL SOCIETY

The annual meeting of the Louisiana State Urological Society is scheduled for Lake Charles, Louisiana, August 14 and 15, 1959, at the Chateau Charles Motor Hotel. The scientific session will be held on the morning of August 15, 1959, at which time guest speakers will be Dr. R. H. Flocks, State University of Iowa, and Dr. Samuel L. Raines, University of Tennessee.

BOOK REVIEWS

Some Milestones in the History of Hematology; by Camille Dreyfus, M.D. New York, Grune & Stratton, 1957. pp. 87. illus. Price $4.50.

Without attempting a complete history of hematology, Dr. Dreyfus has selected certain landmarks on the road of the development of our knowledge of the subject to present-day status.

The first chapter reviews the early history of the blood, marking for the reader the real contributions to the subject in this early period. Later chapters deal with the early history of hemolytic jaundice, leukemia and plethora vera. A final essay is devoted to the life and work of Georges Hayem, the father and founder of hematology.

The illustrations and bibliographies constitute a valuable feature of this little volume, of which parts have been published previously in current journals.

MARY LOUISE MARSHALL

J.A.M.A. Clinical Abstracts of Diagnosis and Treatment; compiled by I. Phillips Frohman, M. D. New York, Intercontinental Medical Book Corporation, 1957. pp 564. Price, $5.50.

The clinical abstracts which appear currently in the Journal of the American Medical Association are for many busy physicians the sole access to the world of medical literature. In the present volume, the compiler, Dr. I. Phillips Frohman, has chosen the best of these abstracts dealing with diagnosis and treatment, published during 1956. The abstracts have been rearranged so that all dealing with a single body system appear together, enabling the reader to review in abstract form the best of the articles on one subject for the past year. The volume should serve a very useful purpose as a quick reference source.

MARY LOUISE MARSHALL

PUBLICATIONS RECEIVED

Doubleday & Co., Inc., N. Y.: Hearing; A Handbook for Laymen, by Norton Canfield, M.D.

The C. V. Mosby Co., St. Louis: Patient Care and Special Procedures in X-Ray Technology, by Carol Hocking Vennes, R. M., and John C. Watson, R. T.

Prentice-Hall, Inc., Englewood Cliffs, N. J.: Your Mind Can Make You Sick or Well, by Curt S. Wachtel, M. D.

W. B. Saunders Co., Phila.: Hypertension (The First Hahnemann Symposium on Hypertensive Disease, edited by John H. Moyer, M. D.; A Textbook of Medicine, edited by Russell L. Cecil, M. D., and Robert F. Loeb, M. D. (10th edit.).

Vantage Press, Inc., N. Y.: 501 Questions and Answers in Anatomy, by Stanley D. Miroyiannis, B. S., Ph.D.

The Williams & Wilkins Co., Balt.: Leprosy in Theory and Practice, edited by R. G. Cochrane, M. D.

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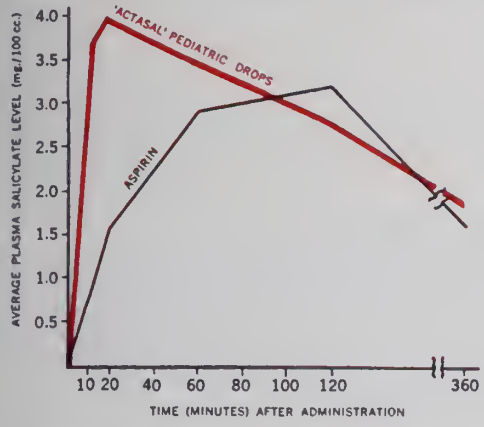
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DOSAGE: Each dropperful (0.6 ml.) contains 105 mg. Choline Salicylate, equivalent to approximately 1¼ grains aspirin.

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SUPPLY: 60 cc. bottle packaged with cellophane-wrapped calibrated dropper.

CITED REFERENCES: 1. Smith, P. K.: Personal Communication. 2. Wolf, J., Boody, R.: Federation Proc. 18:605, 1959. 3. Broh-Kahn, R. H.: Federation Proc. 18:17, 1959. 4. Complete data available on request to the Medical Director.

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Bialkin, G.: Scientific Exhibit, American Academy of General Practice, San Francisco, April 6-9, 1959.

CASE HISTORY: J. D., a 5 month old white male developed a dry seborrhea capitis at approximately 6 weeks after birth which covered the whole scalp. By the time of examination, the child had been treated with various detergent ointment and lotion preparations without apparent effect. 'Soropon' Pediatric Solution was applied as a shampoo, directly to the scalp to remove the encrustations. A lanolin ointment was applied to scalp because of inherent dryness. A series of 5 treatments was required for complete removal and after this treatment period the seborrheic eczema had virtually disappeared. The patient has been symptom free since then.

Bialkin, G.: A New Anti-Seborrheic Agent in Pediatric Practice. Arch. of Ped. (to be published).

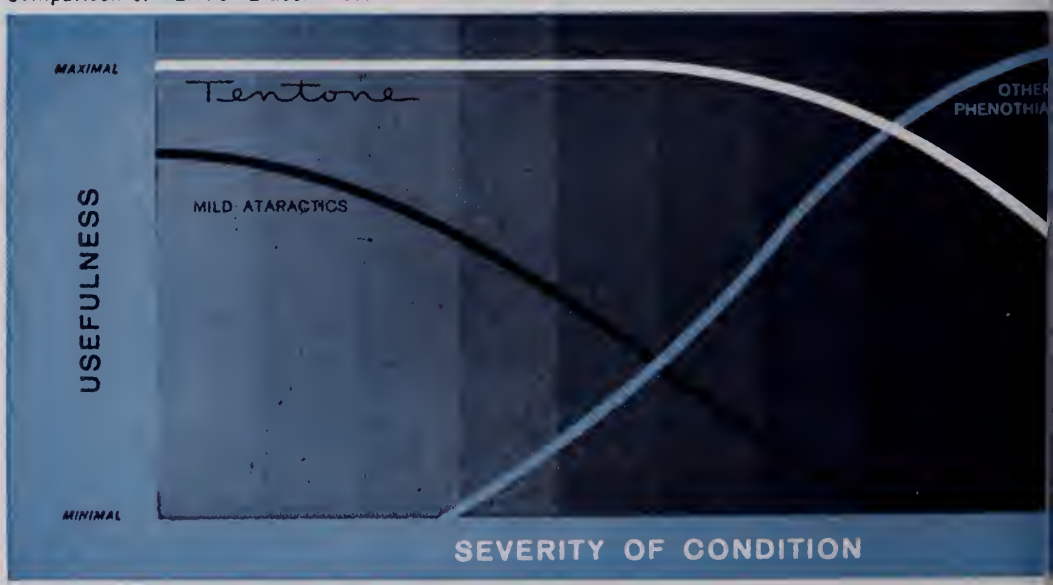
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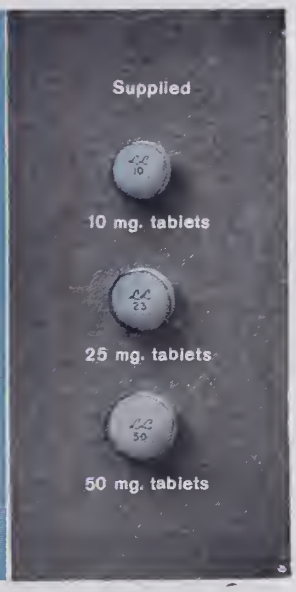
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1. Editorial: New England J. Med. 258:48, 1958.
2. Vinnicombe, J.: Antibiotic Med. & Clin. Ther. 5:474, 1958.
3. Sheth, U. K., et al.: Ibid., p. 604, 1958.

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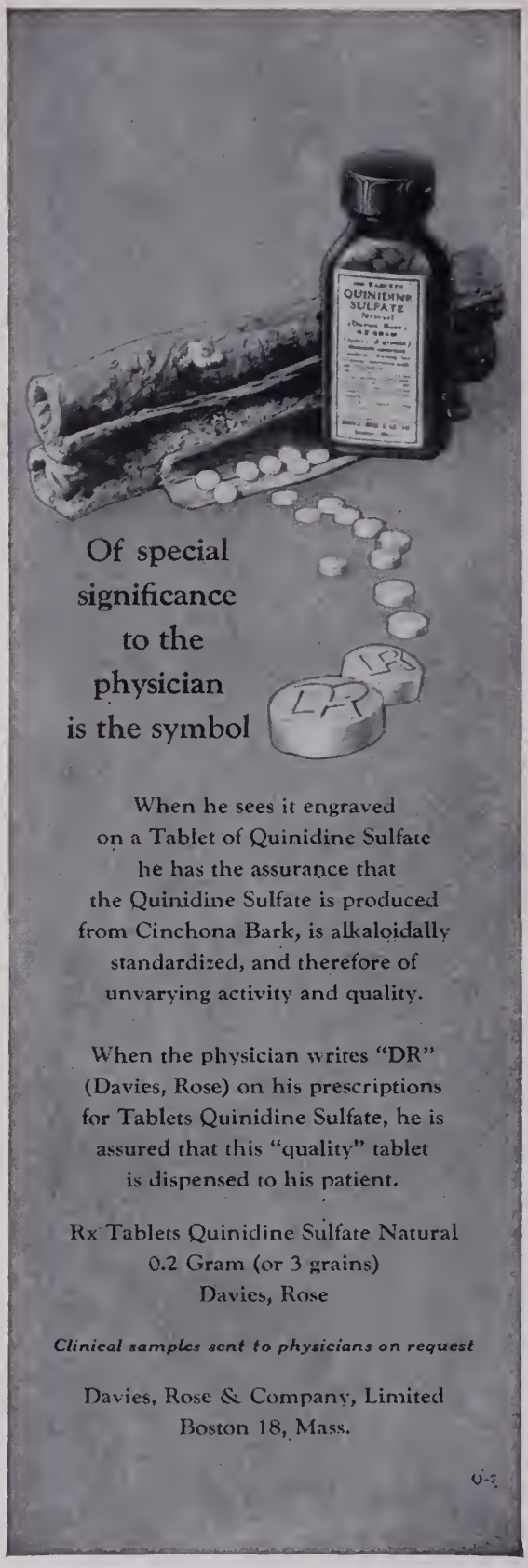
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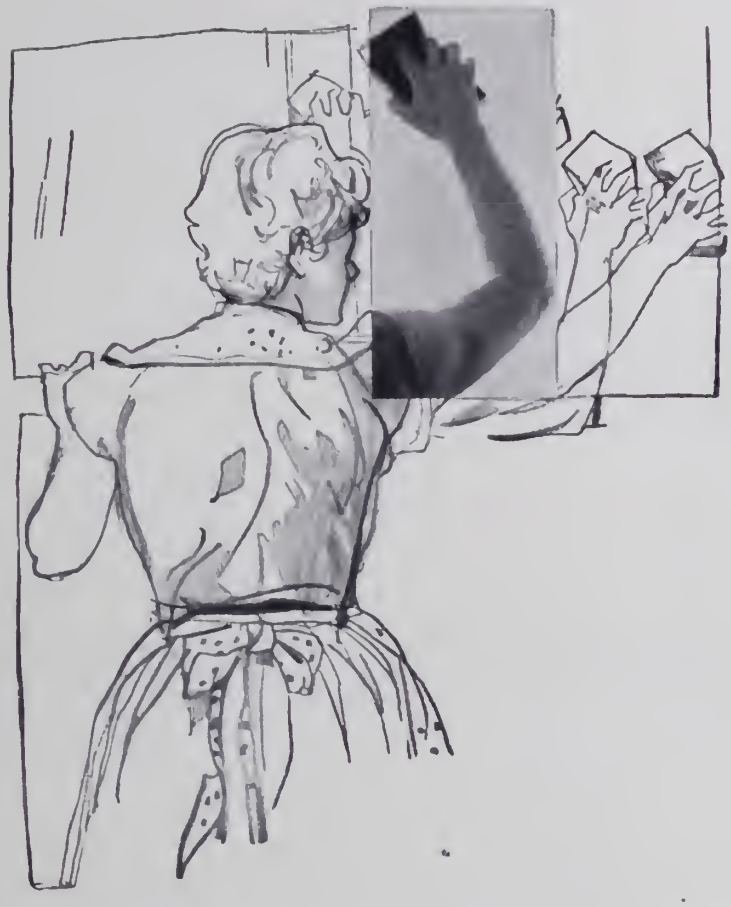
"The Hospital Atmosphere is Avoided"

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in very special cases
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HENNESSY
COGNAC BRANDY
84 Proof | Schieffelin & Co., New York





To the relief of musculoskeletal pain, new MEDAPRIN* adds restoration of function

Analgesics offer temporary relief of musculoskeletal pain, but they merely *mask* pain rather than getting at its *cause*. New Medaprin, in addition to bringing about prompt subjective improvement, promotes the *restoration of normal function* by suppressing the inflammation that *causes* the pain.

Medaprin, Upjohn's new analgesic-steroid combination, contains aspirin plus Medrol.** the corticosteroid with *the best therapeutic ratio in the steroid field*.† Instead of suffering recurrent discomfort because of the "wearing off" of analgesics, the patient on Medaprin experiences a smooth, *extended* relief and more normal mobility.

Indications: Medaprin is indicated in mild-to-moderate rheumatic and musculoskeletal conditions, including rheumatoid arthritis, deltoid bursitis, low back pain, neuralgia, synovitis, fibromyositis, osteoarthritis, low back sprain, traumatic wrist, sciatica, and "tennis elbow."

Dosage: The recommended dosage is 1 tablet q.i.d. The usual cautions and contraindications of corticotherapy should be observed.

Supplied: In bottles of 100 and 500.

Formula: Each Medaprin tablet contains

- 300 mg. acetylsalicylic acid, for prompt relief of pain
- 1 mg. Medrol, to suppress the causative inflammation
- 200 mg. calcium carbonate, as buffer

*TRADEMARK **TRADEMARK, REG. U. S. PAT. OFF.—METHYLPREDNISOLONE, UPJOHN
†RATIO OF DESIRED EFFECTS TO UNDESIRED EFFECTS

The Upjohn Company, Kalamazoo, Michigan

Upjohn



It's a beauty—and you hooked it . . .

"Good for you!"

CONGRATULATIONS! What a moment. What a day. Now relax. You've earned it. Reward yourself with a good glass of beer. Doesn't it taste wonderful? Nothing, but nothing takes care of that great big thirst of yours like a long, cold glass of beer. And—it really picks you up too.

Beer Belongs—to the fun of living!

United States Brewers Foundation
CHARTERED 1862



Beer's rich in wonderful, healthful things. Nature's own choice barley malt, hops, minerals, and the purest water. Good wholesome beer or ale perks you up—won't let you down.

Classic Treatment in Hypertension*



Because

RAUWILOID provides effective Rauwolfia action virtually free from serious side effects ... the smooth therapeutic efficacy of Rauwiloid is associated with a lower incidence of certain unwanted side effects than is reserpine... and with a lower incidence of depression. Tolerance does not develop.

RAUWILOID can be initial therapy for most hypertensive patients... Dosage adjustment is rarely a problem.

When more potent drugs are needed, prescribe one of the *convenient single-tablet combinations*

Rauwiloid® + Veriloid®

alseroxylon 1 mg. and alkavervir 3 mg.

or

Rauwiloid® + Hexamethonium

alseroxylon 1 mg. and hexamethonium chloride dihydrate 250 mg.

Many patients with severe hypertension can be maintained on Rauwiloid alone after desired blood pressure levels are reached with combination medication.

Riker

Northridge, California

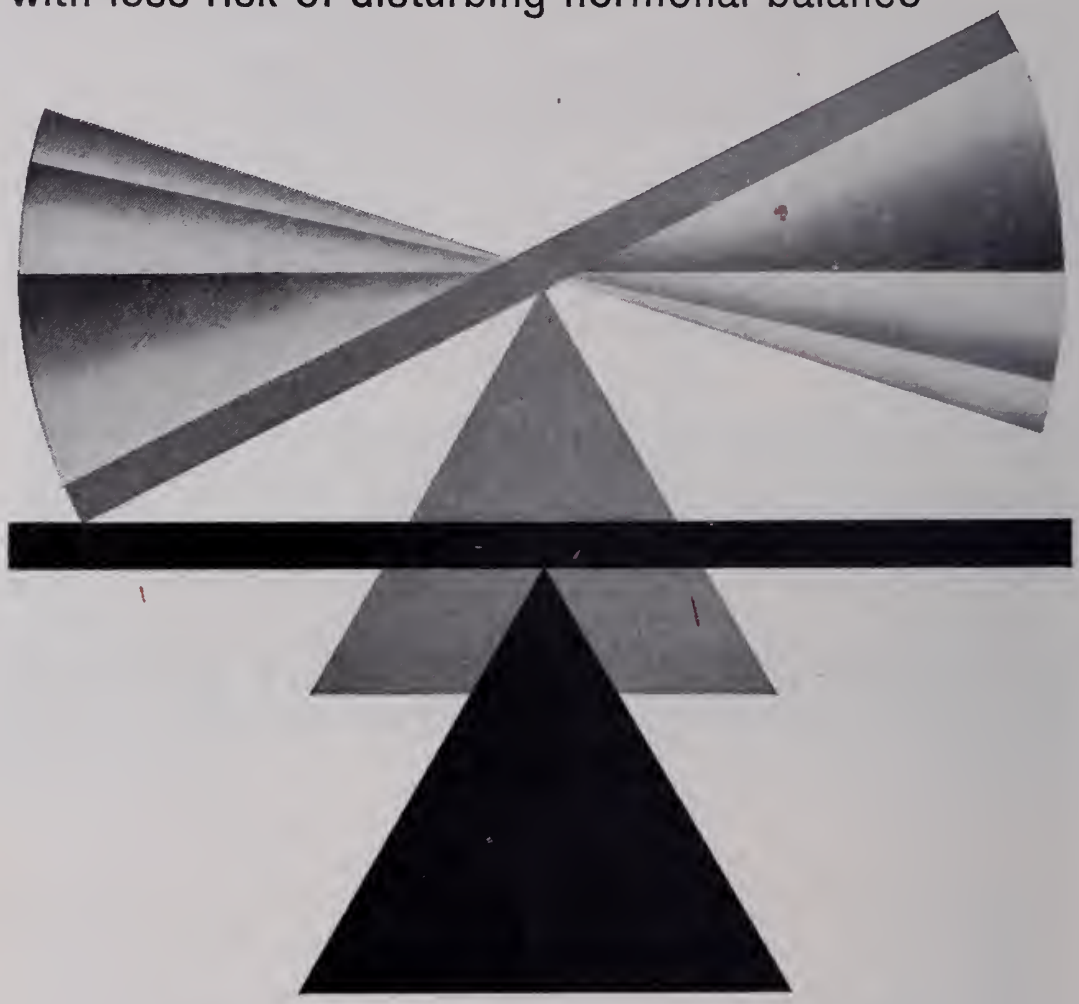
Effective relief in rheumatic disorders

Sterazolidin® capsules

prednisone-phenylbutazone Geigy

Geigy

with less risk of disturbing hormonal balance



In the treatment of the rheumatic disorders new Sterazolidin provides a method of limiting the gravest danger inherent in steroid therapy... hypercortisonism arising from excessive dosage.

Repeatedly it has been shown that the addition of low dosage of Butazolidin sharply reduces hormone requirement.[1-4] Sterazolidin is a combination of prednisone (1.25 mg.) and Butazolidin (50 mg.) which provides, in the majority of cases, consistent relief at a stable uniform maintenance dosage significantly below the level at which serious hormonal imbalance is likely to occur.

Sterazolidin® (prednisone-phenylbutazone Geigy). Each capsule contains prednisone 1.25 mg.; phenylbutazone 50 mg.; dried aluminum hydroxide gel 100 mg.; magnesium trisilicate 150 mg. and homatropine methylbromide 1.25 mg.

1. Kuzell, W. C., and others.: Arch. Int. Med. 92:646, 1953. 2. Wolfson, W. Q.: J. Michigan M. Soc. 54:323, 1955. 3. Strandberg, B.: Brit. J. Phys. Med. 19:9, 1956. 4. Platt, W. D., Jr., and Steinberg, I. H.: New England J. Med. 256:823 (May 2) 1957.

Geigy, Ardsley, New York

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Antivert® stops



VERTIGO

Each ANTIVERT *tablet contains:*

Meclizine (12.5 mg.)—most effective antihistaminic to control vestibular dysfunction.[1]

Nicotinic acid (50 mg.)—the drug of choice for prompt vasodilation.[2,3]

Advantage of "dual therapy" confirmed:

Menger found ANTIVERT "improved or controlled symptoms in virtually 90% of vertiginous patients."[2]

Indications: Meniere's syndrome, arteriosclerotic vertigo, labyrinthitis, and streptomycin toxicity. Also effective in recurrent headache, including migraine.

Dosage: one tablet before each meal.

Supplied: bottles of 100 blue-and-white scored tablets. Prescription only.

References: 1. Charles, C. M.: Geriatrics 2:110 (March) 1956. 2. Menger, H. C.: Clin. Med. 4:313 (March) 1957. 3. Shuster, B. H.: M. Clin. North America 40:1787 (Nov.) 1956.

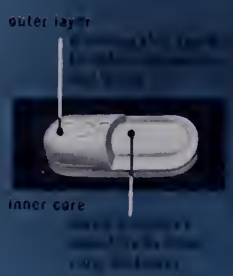
ROERIG Rx

Division, Chas. Pfizer & Co., Inc.
New York 17, N. Y.
Science for the world's well-being

For those patients who complain

carries your patients through the middle of the night





Each Nebralin [illegible] tablet contains:

Dorsilan® [illegible]

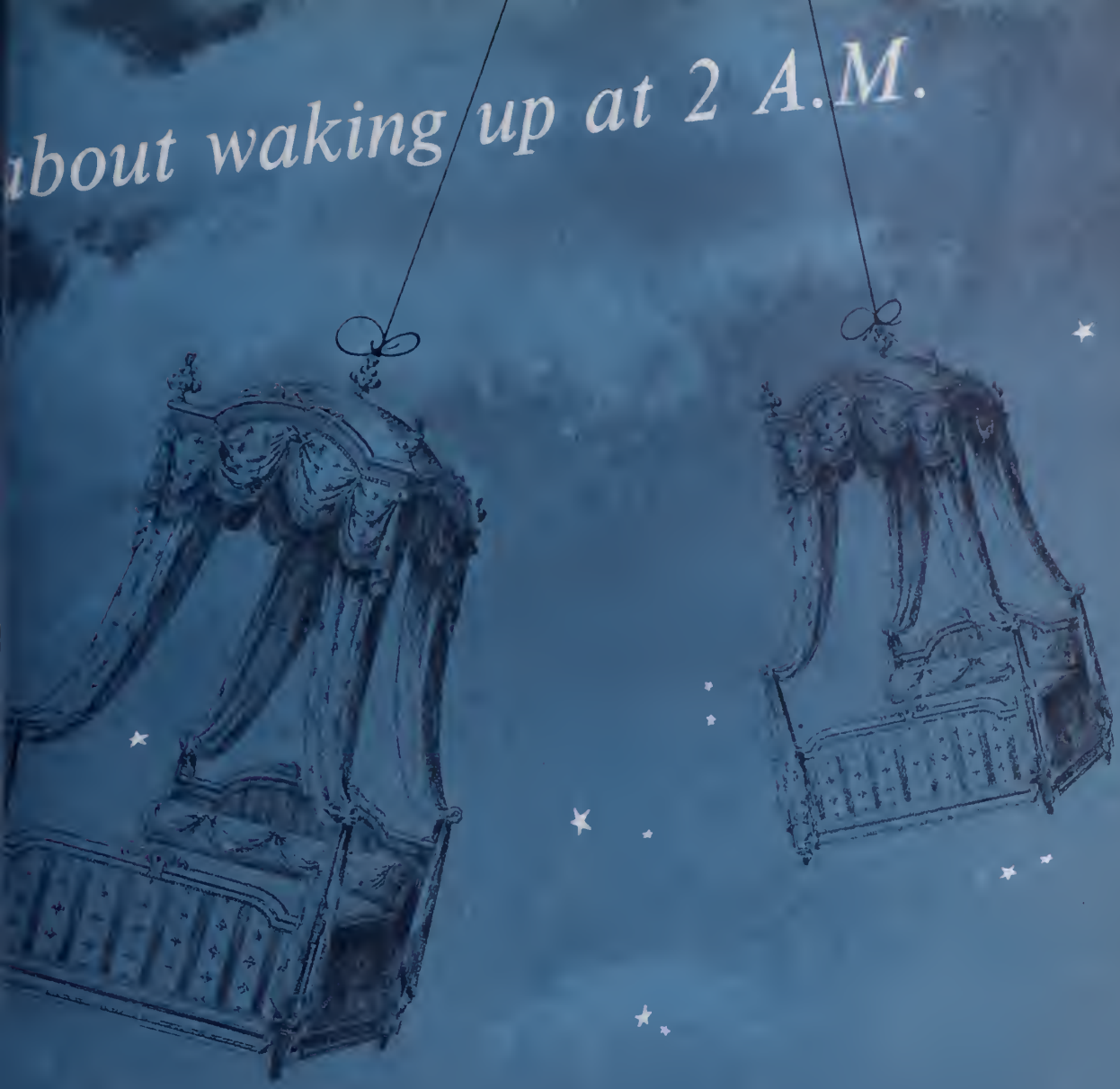
Mephenesin [illegible]

*Derived by [illegible]

CAUTION: [illegible] dispensed [illegible]

Dosage: [illegible] before retiring

...bout waking up at 2 A.M.



nebralin®

...med-release tablet

timed-release action for a full night's sleep

NEBRALIN is designed to duplicate the normal sleep pattern. It encourages muscular relaxation and induces sustained, relaxed sleep by the release of Dorsital and mephenesin in a timed-release tablet. Rapid-acting mephenesin quickly relaxes skeletal muscles to overcome "fatigue-tension" and conditions the body for sleep. Dorsital provides CNS sedation to induce sound, relaxed sleep. The initial and sustaining dosages are designed to keep the amount of barbiturate to be inactivated at any one time at a low level tapering toward morning. Evidence indicates that mephenesin is capable of producing sleep,[1] and when combined with a barbiturate enhances barbiturate action.[2, 3] Moreover, the integrated action of the two components permits smaller dosages of each,[4] assuring your patients refreshed awakenings without "morning hangover."

1 Schlesinger E. B.: Tr. New York Acad. Sc. 2.6, (Nov.) 1948.
2 Richards, R. K. and Taylor, J. D.: Anesthesiology 17:414. 1956.
3 Shideman F. E.: Postgrad. Med. 24:207, 1958.
4 Berger, F.: Pharmacol. Rev. 1:243. 1949.

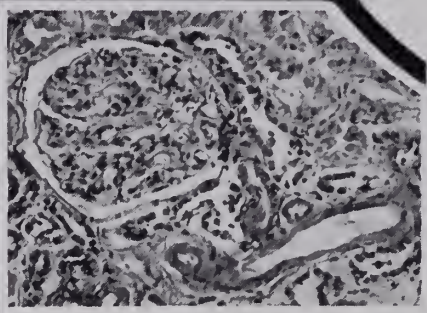
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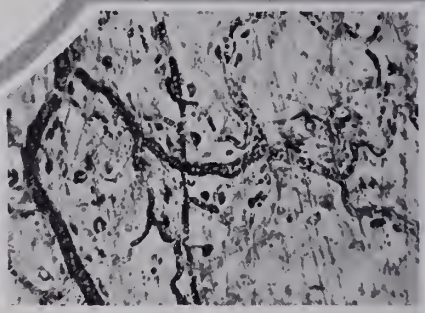
SQUIBB ANNOUNCES

NEW

RAUTRAX

RAUDIXIN
Squibb Standardized
Whole Root Rauwolfia Serpentina
FLUMETHIAZIDE
POTASSIUM CHLORIDE





A LOGICAL COMBINATION **RAUDIXIN** ENHANCED
BY AN ENTIRELY NEW DIURETIC — **FLUMETHIAZIDE**

THUS SQUIBB OFFERS YOU GREATER LATITUDE IN SOLVING THE PROBLEM OF

HYPERTENSION

WITHOUT FEAR OF SIGNIFICANT POTASSIUM DEPLETION[1-3]

Rautrax combines Raudixin with flumethiazide — *the new, safe nonmercurial diuretic* — for control of all degrees of hypertension. Clinicians report it safely and rapidly eliminates excess extracellular sodium and water without potassium depletion.[1-3] Potassium loss is less than with any other nonmercurial diuretic.[1] Moreover, the inclusion of supplemental potassium chloride in Rautrax provides added protection against potassium and chloride depletion in the long-term management of hypertension.

Through this dependable diuretic action of flumethiazide, the clinical and subclinical edema — so often associated with cardiovascular disease — is rapidly brought under control.[2-5] And once Rautrax has brought the fluid balance within normal limits, continued administration does not appreciably alter the normal serum electrolyte pattern. Flumethiazide also potentiates the antihypertensive action of Raudixin. By this unique dual action, a lower dosage of each ingredient effectively maintains safe antihypertensive therapy.

Dosage: 2 to 6 tablets daily in divided doses initially; may be adjusted within range of 1 to 6 tablets daily in divided doses. **Note:** In hypertensive patients already on ganglionic blocking agents, veratrum and/or hydralazine, the addition of Rautrax necessitates an immediate dosage reduction of these agents by at least 50%. A similar reduction is necessary when these agents are added to the Rautrax regimen.
Supply: Capsule-shaped tablets supplying 50 mg. of Raudixin, 400 mg. of flumethiazide, and 400 mg. of potassium chloride, bottles of 100.
References: 1. Moyer, J. H., and others: Am. J. Cardiol., 3:113 (Jan.) 1959. • 2. Bodi, T., and others: To be published, Am. J. Cardiol., (April) 1959. • 3. Fuchs, M., and others: Monographs on Therapy, 4:43 (April) 1959. • 4. Montero, A. C.; Rochelle, J. B., III, and Ford, R. V.: To be published. • 5. Rochelle, J. B., III; Montero, A. C., and Ford, R. V.: To be published.

LITERATURE AVAILABLE ON REQUEST.

'RAUDIXIN®' AND 'RAUTRAX' ARE SQUIBB TRADEMARKS

SQUIBB Squibb Quality — the Priceless Ingredient

Why G.I. patients abandon therapy

Bandes[1] reports that G.I. patients often abandon therapy because of the unpleasant side effects of the prescribed drugs—blurred vision, dry mouth and loginess.

In a clinical trial of such patients who had abandoned other therapy, 90% had gratifying relief of symptoms, and 85% were free of *any* side effects on

Milpath®

®Miltown + *anticholinergic*

Direct antispasmodic action, plus control of anxiety and tension, provide rapid, safe relief of pain, spasm and anxiety—without the side effects of belladonna, bromides or barbiturates.

NEW DOSAGE
Milpath/200
NOW AVAILABLE
reduced Miltown® dose (200 mg.) plus full anticholin-ergic dose (25 mg.)

FORMULA: Each scored tablet contains:
meprobamate 400 mg., tridihexethyl chloride 25 mg. (formerly supplied as the iodide).

DOSAGE: 1 tablet t.i.d., with meals, and two at bedtime.

1. Bandes, J.: Combined Drug Therapy in Gastrointestinal Disturbances; Increased benefit through diminished side reactions, Am. J. Gastroenterology, *30*:600, Dec. 1958.

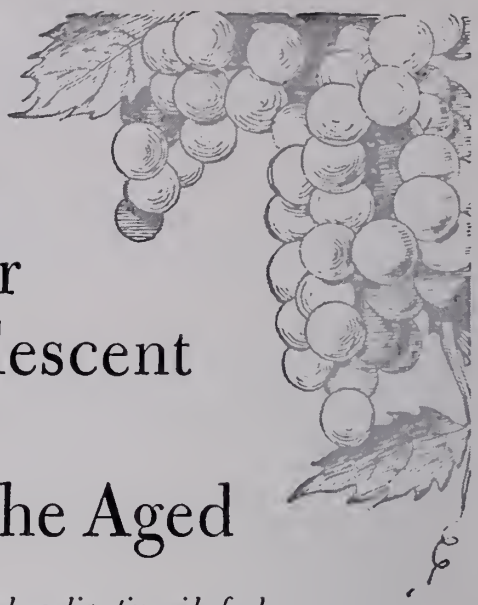


WALLACE LABORATORIES *New Brunswick, N. J.*



wine...

Balm for the Convalescent and "Milk" for the Aged



Whether wine be considered as digestive aid, food, gentle sedative or tonic medicine, it is indisputedly a boon to the aged, the debilitated and the convalescent.

Appetite Stimulant...

Used as an aperitif, wine, through its content of alcohol, its esters, aroma and flavor, excites the olfactory sense and the gustatory papillae—in a word, is a stimulus to appetite.

Digestive Aid...

Wine has been found to increase salivary flow and stimulate gastric secretion. As such, it is a welcome resource for aged persons and convalescents whose digestion languishes.

Food...

Wine provides two types of food elements—those supplying energy, and nutritive elements found in the grape which contribute to bodily maintenance.

Gentle Sedative...

Described as the safest of all sedatives, wine can often dispel the anxieties, fears, emotional pressures and insomnia of old age and prolonged illness.

℞

These and other therapeutic uses of wine are discussed in "Uses of Wine in Medical Practice." For your free copy write—Wine Advisory Board, 717 Market Street, San Francisco 3, California.

might Colace have prevented this?



As Dennison[1] reported, *"It is our considered opinion that the relief from straining at the stool is, in many instances, life-saving." And, further, "In the handling of bowel problems in cardiac patients, the properties of dioctyl sodium sulfosuccinate closely approach those required of an ideal agent."*

Colace®

Dioctyl sodium sulfosuccinate, Mead Johnson

prevents hard, difficult-to-pass stools . . . without laxative action.

available in 3 convenient dosage forms:

capsules (50 and 100 mg.) . . . for adults and older children
syrup . . . for children and adults
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Mead Johnson
Symbol of service in medicine

Dennison, A.D., Jr.: Am. J. Cardiol. 400-403 (March) 1958.

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general use...
in general practice

fast, effective and long-lasting relief from...

BURNS – sunburn, cooking, ironing

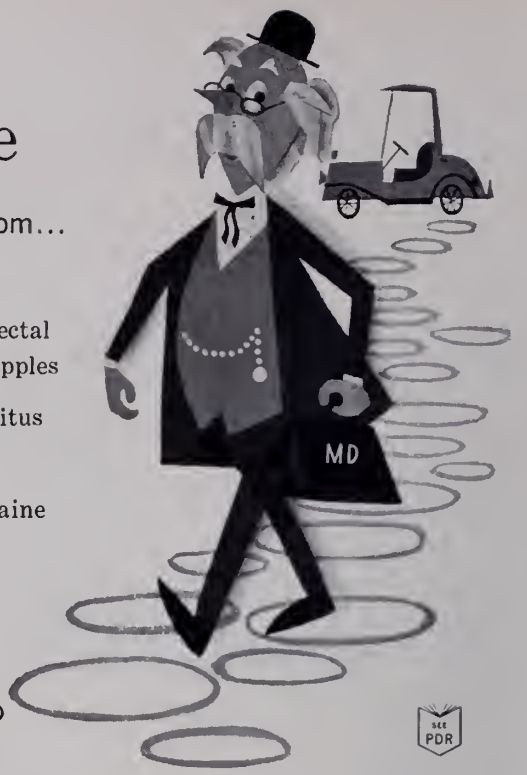
PAIN – hemorrhoids and inoperable anorectal conditions, cuts and abrasions, cracked nipples

ITCHING – insect bites, poison ivy, pruritus

The water-soluble, nonstaining base melts on contact with the tissue, releasing the Xylocaine for immediate anesthetic action. It does not interfere with the healing processes.

Astra Pharmaceutical Products, Inc.,
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XYLOCAINE®
(brand of lidocaine*)
OINTMENT 2.5% & 5%



*U.S. PAT. NO. 2,441,498 MADE IN U.S.A.

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they deserve

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Vitamin-Mineral Supplement Lederle

CAPSULES—14 VITAMINS—11 MINERALS

LEDERLE LABORATORIES, a Division of
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Lederle

the means *(second to none)*

to end nausea and vomiting

Trilafon®

perphenazine

INJECTION • SUPPOSITORIES • REPETABS • TABLETS

- *leads* all phenothiazines in effective antinauseant action
- *frees* patients from daytime drowsiness
- *avoids* hypotension
- *proved* and *published* effectiveness in practically all types of nausea or emesis

FOR RAPID CONTROL OF SEVERE VOMITING

TRILAFON INJECTION

5 mg. ampul of 1 cc.

Relief usually in 10 minutes[1]...nausea and vomiting controlled in up to 97% of patients[2]... virtually no injection pain.

ALSO NEW TRILAFON SUPPOSITORIES

4 mg. and 8 mg.

AND FOR ORAL THERAPY

TRILAFON REPETABS®

8 mg.—4 mg. in outer layer for *prompt effect*, 4 mg. in inner core for *prolonged action*

TRILAFON TABLETS

2 mg. and 4 mg.

(1) Ernst, E. M., and Snyder, A. M.: Pennsylvania M. J. *61*:355, 1958.

(2) Preisig, R., and Landman, M. E.: Am. Pract. & Digest Treat. *9*:740, 1958.

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For every topical indication, a Burroughs Wellcome 'SPORIN'...



OINTMENT: Tubes of ⅛ oz. and ½ oz. (with applicator tip) for ophthalmic or dermatologic application.

OTIC DROPS: Bottles of 5 cc. with sterile dropper.



OINTMENT: Tubes of ½ and 1 oz. and tubes of ⅛ oz. with ophthalmic tip.

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NEW { LOTION: Plastic squeeze bottles of 20 cc.
POWDER: Shaker-top bottles of 10 Gm.



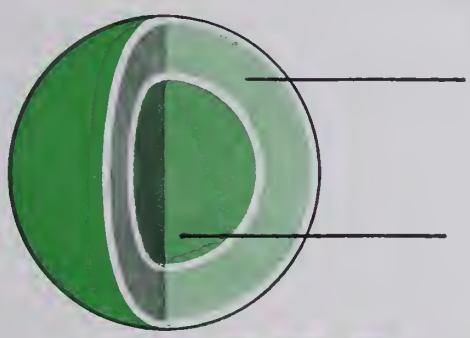
OINTMENT: Tubes of ½ oz., 1 oz. and ⅛ oz. (ophthalmic tip).

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the complaint: "nervous indigestion"

the diagnosis: any one of several nonspecific gastrointestinal disorders requiring relief of symptoms by sedative-antispasmodic action with concomitant digestive enzyme therapy. **the prescription:** a new formulation, incorporating in a single tablet the actions of Donnatal and Entozyme. **the dosage:** two tablets three times a day, or as indicated.



the formula: *in the gastric-soluble outer layer:*

Hyoscyamine sulfate	0.0518 mg.
Atropine sulfate	0.0097 mg.
Hyoscine hydrobromide	0.0033 mg.
Phenobarbital (⅛ gr.)	8.1 mg.
Pepsin, N.F.	150 mg.

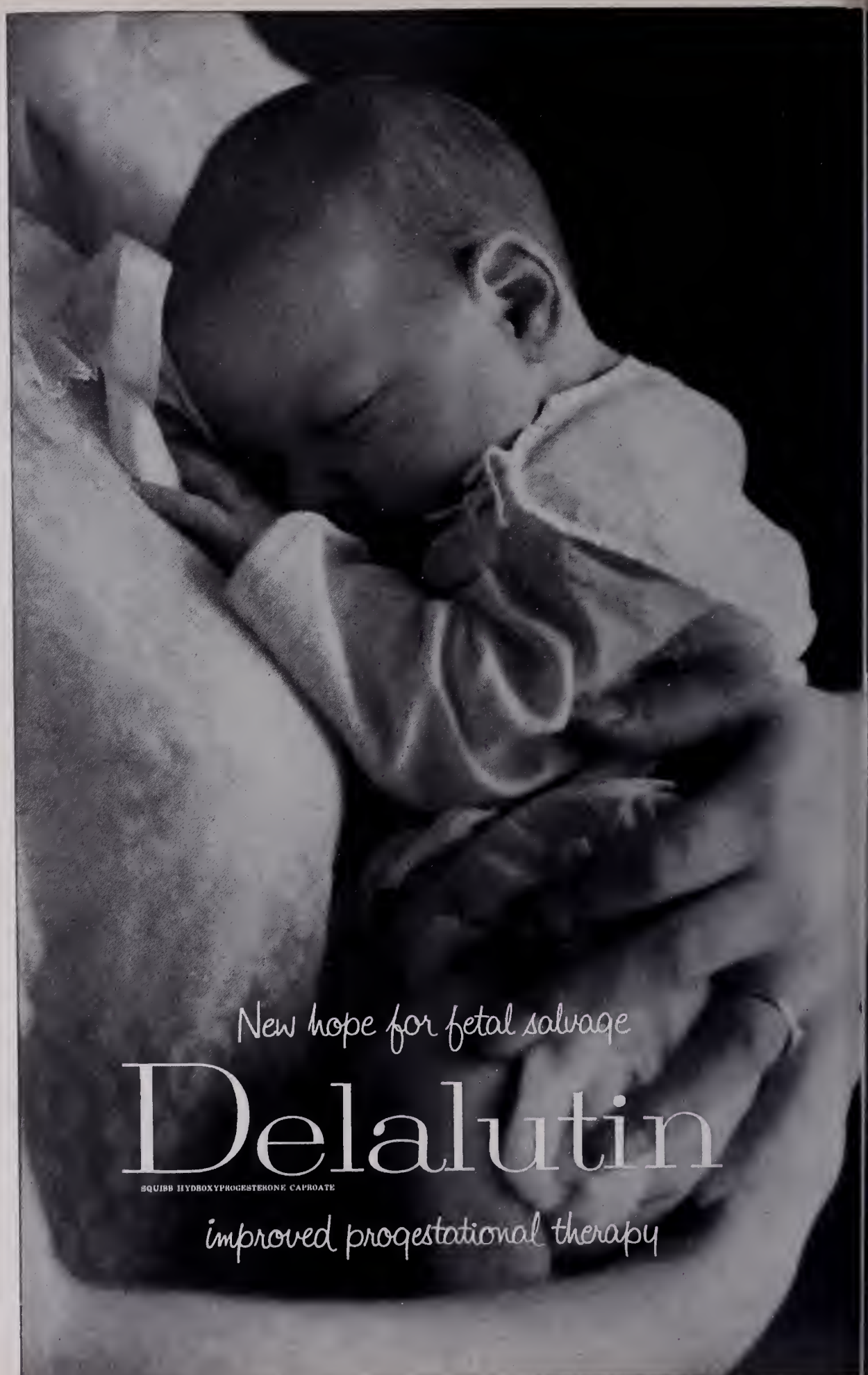
in the enteric-coated core:

Pancreatin, N.F.	300 mg.
Bile salts	150 mg.

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New hope for fetal salvage
Delalutin
SQUIBB HYDROXYPROGESTERONE CAPROATE
improved progestational therapy

The results of administering Delalutin before the 12th week of gestation to 82 women with habitual abortion were reported recently by Reifenstein.[1] Every patient had experienced at least three consecutive abortions immediately preceding the treated pregnancy. More than 68% of these women were delivered successfully and uneventfully following Delalutin therapy.

Boschann,[2] in a study of pregnancies with threatened abortion, found that:

37% of 73 pregnancies were carried to term without progestational therapy
64% of 42 pregnancies were salvaged by progesterone
83% of 73 pregnancies were salvaged by Delalutin

Eichner,[3] found that with Delalutin fetal salvage of infants below term weight (1000 to 2000 gm.) was significantly improved.
108 (76%) of 142 babies of this birth weight survived without progestational therapy.
16 (100%) of 16 babies of this birth weight survived with Delalutin therapy.
A comparison study was made of a group of repeated aborters treated with Delalutin, and a group with a similar history treated with bed rest and sedation.[4] Pregnancy salvage with Delalutin was twice that of the control group. Delalutin was found to be "highly active," well-tolerated and long-acting.

Delalutin offers these advantages over other progestational agents:

- longer-acting and more sustained therapy
- more effective in producing and maintaining a completely matured secretory endometrium
- no androgenic effect
- more concentrated solution requires injection of less vehicle
- unusually well-tolerated, even in large doses
- requires fewer injections
- low viscosity makes administration easier

DELALUTIN is also potent and safe therapy for: threatened abortion; post-partum after-pains; amenorrhea, primary and secondary; dysfunctional uterine bleeding not associated with genital malignancy; infertility with inadequate corpus luteum function; production of secretory endometrium and desquamation during estrogen therapy; premenstrual tension; dysmenorrhea; cyclomastopathy, mastodynia, adenosis and chronic cystic mastitis.

Administration and Dosage: Because of its low viscosity, Delalutin may be administered with a small gauge needle (deep intragluteal injection). Complete information on administration and dosage is supplied in the package insert.

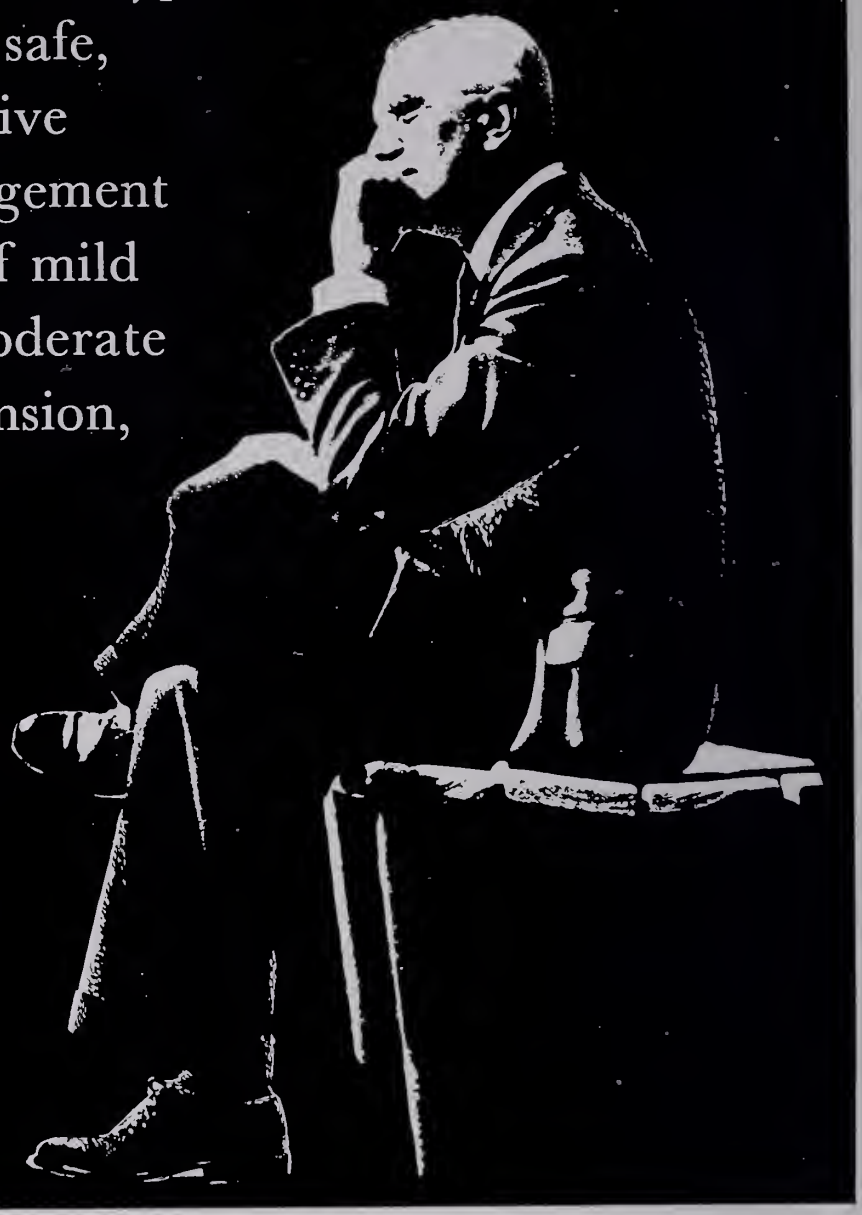
Supply: Delalutin is available in vials of 2 and 10 cc., each cc. containing 125 mg. of hydroxyprogesterone caproate in sesame oil, and benzyl benzoate.

References: 1. Reifenstein, E. C., Jr.: *Annals N. Y. Acad. Sci.* 71:762 (July 30) 1958. 2. Boschann, H-W.: *ibid.*, p. 727. 3. Eichner, E.: *ibid.*, p. 787. 4. Hodgkinson, C. P.; Igna, E. J., and Bukeavich, A. P.: *Am. J. Obst. and Gyn.* 76:279, 1958.

SQUIBB *Squibb Quality—the Priceless Ingredient*

'Delalutin'® is a Squibb trademark

Now with Cryptenamine...
for safe,
effective
management
of mild
to moderate
hypertension,



℞ Veratrite®

Prescribed with confidence 8,863,769 times Veratrite continues to be the antihypertensive of choice for treating geriatric patients.

Veratrite effectively reduces blood pressure through action on the sympathetic nervous system, without detriment to the cardiac output.

Each VERATRITE tabule contains:

Cryptenamine (tannates) 40 C.S.R.* Units	
Sodium nitrite	1 gr.
Phenobarbital	¼ gr.

*Carotid Sinus Reflex

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Neisler



in surgical and obstetrical procedures
where apprehension increases tension...
patients respond well to

VISTARIL®

hydroxyzine pamoate

EFFECTIVENESS AND SAFETY Vistaril establishes relaxed indifference to preoperative preparation without serious hypotensive effects.

PSYCHOTHERAPEUTIC POTENCY Vistaril makes possible the maintenance of an adequate degree of narcosis with reduced doses of narcotics.
Vistaril relieves tension and controls emesis in both postoperative and postpartum patients.

Recommended Oral Dosage: up to 400 mg. daily in divided doses.

Recommended Parenteral Dosage: 25-50 mg. (1-2 cc.) I.M., q. 4 h., p.r.n.

Vistaril is supplied in 25 mg., 50 mg., and 100 mg. capsules. The parenteral solution is available in 10-cc. vials and 2-cc. Steraject® cartridges; each cc. contains 25 mg. hydroxyzine (as the HCl).

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How can the problem of "postcholecystectomy syndrome" be reduced?

A "routine" operative cholangiogram is now recommended in addition to thorough surgical exploration, reducing the number of cholecystectomized patients later presenting the same symptoms as before the operation.

Source: Vazquez, S. G.: J. Internat. Coll. Surgeons *28*:394, 1957.

for pre- and postoperative management of biliary tract disorders... **DECHOLIN®** *"therapeutic bile"*

*Hydro*choleresis with DECHOLIN combats bile stasis by flushing the biliary tract with dilute, natural bile...

- corrects excessive bile concentration
- helps to thin gallbladder contents
- benefits patients with chronic cholecystitis, noncalculous cholangitis, and biliary dyskinesia

in functional G.I. distress... **DECHOLIN®** with **BELLADONNA**

- reliable spasmolysis
- improved liver function

available: DECHOLIN Tablets: (dehydrocholic acid, AMES) 3¾ gr. (250 mg.). Bottles of 100, 500 and 1,000; drums of 5,000.

DECHOLIN with Belladonna Tablets: (dehydrocholic acid, AMES) 3¾ gr. (250 mg.) and extract of belladonna ⅙ gr. (10 mg.). Bottles of 100 and 500.

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COMPANY, INC
Elkhart • Indiana
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in Rheumatoid Arthritis

*Using combined drug therapy with **PLAQUENIL** or Aralen® as maintenance therapy. With Plaquenil or Aralen alone 62% grade I and II improvement. (Scherbel, A.L.; Harrison, J.W., and Atdjian, Martin: Cleveland Clin. Quart. 25:95, April, 1958. Report on 805 patients with rheumatoid arthritis or related diseases.)

Reasons for Failure:

1. Treatment discontinued too soon (percentage of patients improved increases substantially after first six months).
2. Patients in relapse after prolonged steroid therapy are resistant to Plaquenil or Aralen treatment for several months.

Plaquenil sulfate is supplied in tablets of 200 mg., bottles of 100.

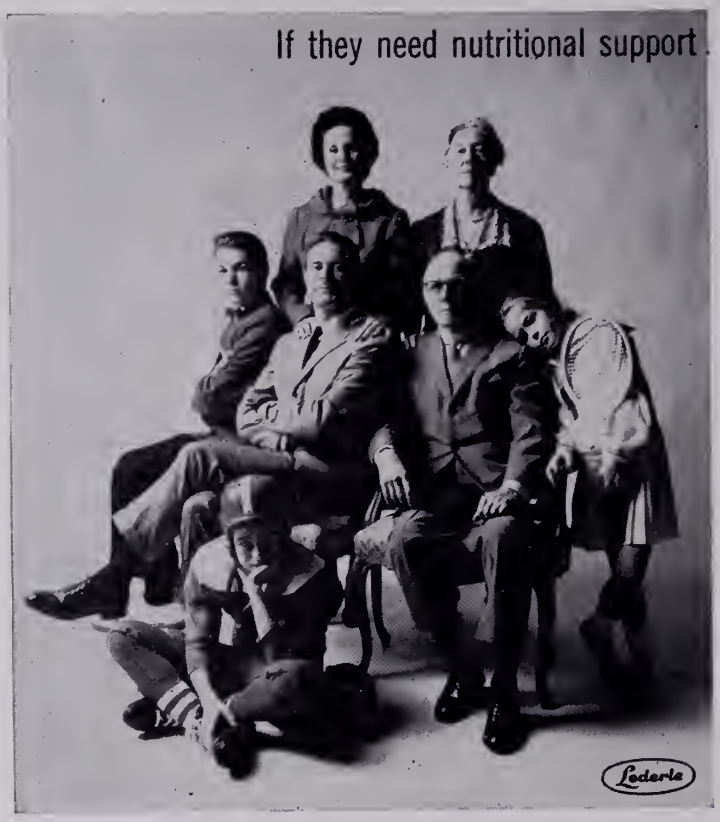
Dose: Initial — 400 to 600 mg. (2 or 3 tablets) daily.
Maintenance — 200 to 400 mg. (1 or 2 tablets) daily.

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rand of hydroxychloroquine), trademarks reg. U.S. Pat. Off.

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CAPSULES—14 VITAMINS—11 MINERALS

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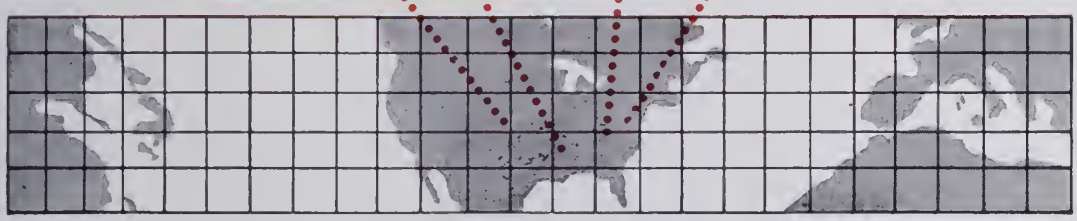
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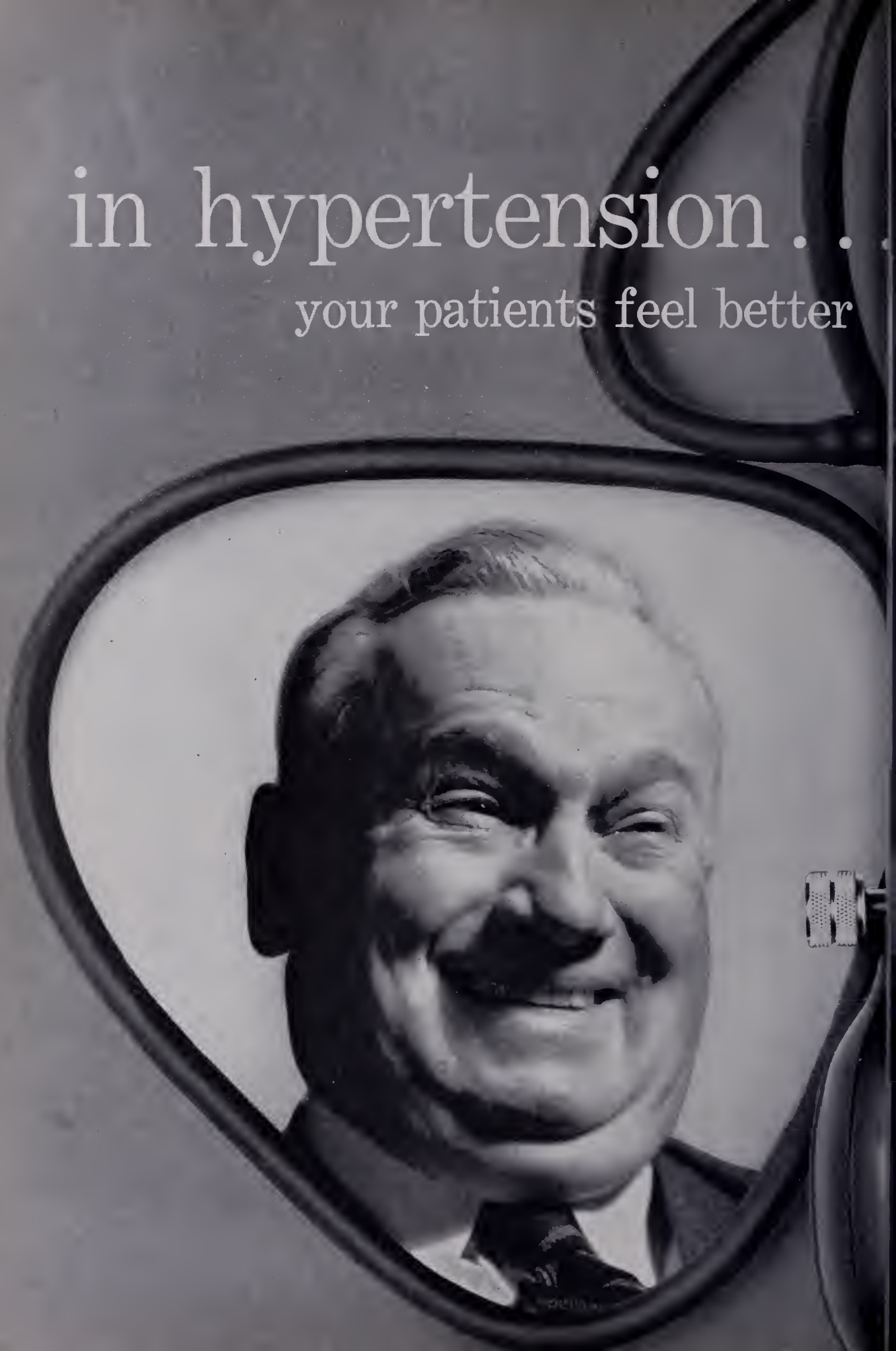
References: 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America 5:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. 57:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. 58:1684 (May 15) 1958. 5. Coirault, M., et al.: Presse méd. 64:2239 (Dec. 26) 1956. 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

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1. Moyer, J. H.; Dennis, E., and Ford, R.: Arch. Int. Med. *96*:530, 1955.
2. Terman, L. A.: Illinois M. J. *3*:67, 1957.
3. La Barbera, J. F.: M. Rec. & Ann. *50*:242, 1956.
4. Bendig, A.: New York J. Med. *66*:2523, 1956.

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JULY, 1959

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The Louisiana State Board of Health is endeavoring to bring to the attention of all parents the hazards involved in the mis-use of these thin plastic materials. A pamphlet entitled "Plastic Film, Correct Use and Mis-Use—Helpful Hints to Parents" is available upon request from the Louisiana State Board of Health, P. O. Box 630, New Orleans 7, La.



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The Hotel Beaumont

KANSAS CITY, KANSAS—Friday, September 25, 1959
Battenfeld Memorial Auditorium

INDIANAPOLIS, INDIANA—Wednesday, Sept. 30, 1959
The Sheraton-Lincoln Hotel

OKLAHOMA CITY, OKLAHOMA—Friday, October 2, 1959
The Skirvin Hotel

BIRMINGHAM, ALABAMA—Sunday, October 11, 1959
The Dinkler-Tutwiler Hotel

TACOMA, WASHINGTON—Wednesday, October 14, 1959
The Hotel Winthrop

TRAVERSE CITY, MICHIGAN—Friday, October 23, 1959
The Park Place Hotel

LUBBOCK, TEXAS—Saturday, October 31, 1959
The Lubbock Country Club

ST. CHARLES, ILLINOIS—Wednesday, November 4, 1959
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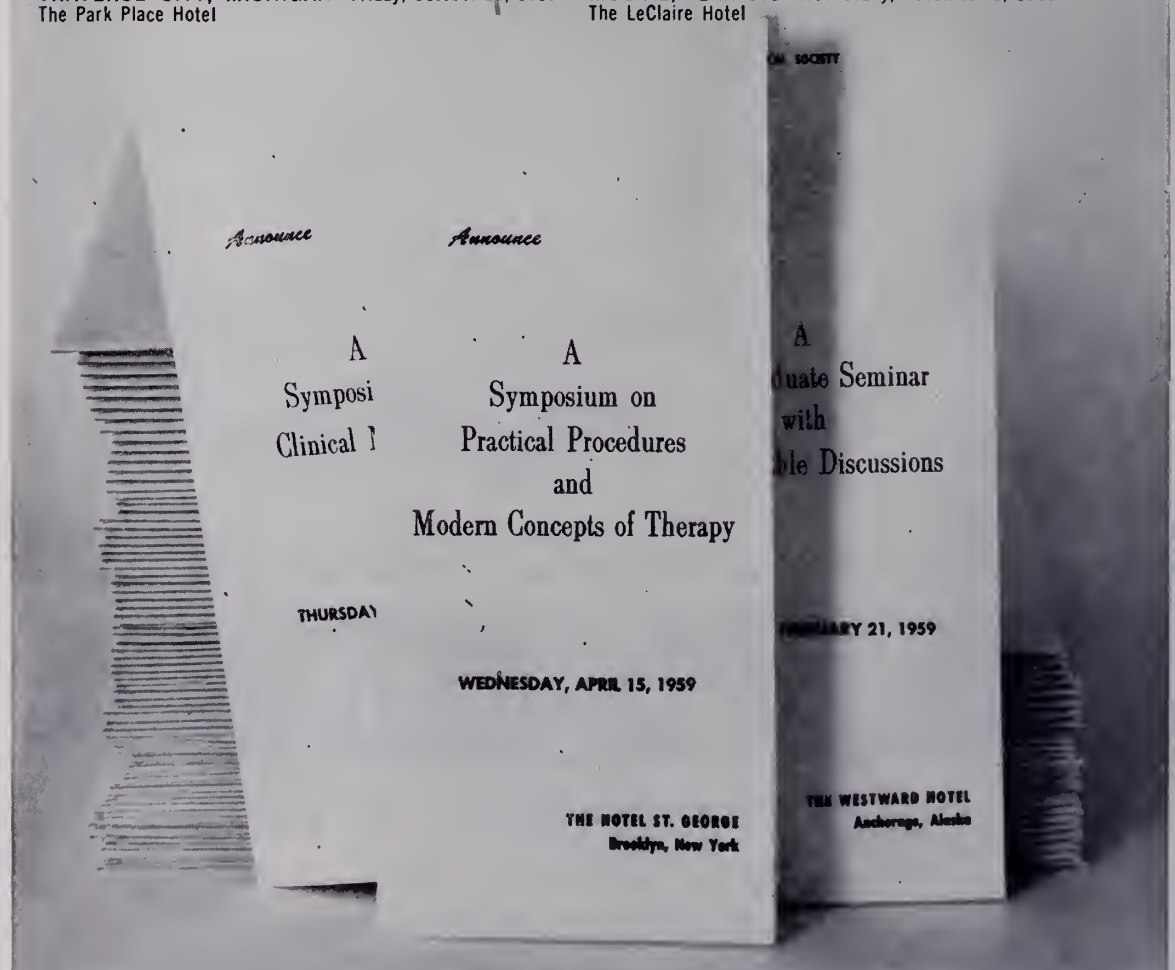
SCHENECTADY, NEW YORK—Thursday, November 12, 1959
The Mohawk Golf Club

CORPUS CHRISTI, TEXAS—Friday, November 13, 1959
The Robert Driscoll Hotel

RIVERSIDE, CALIFORNIA—Sunday, November 15, 1959
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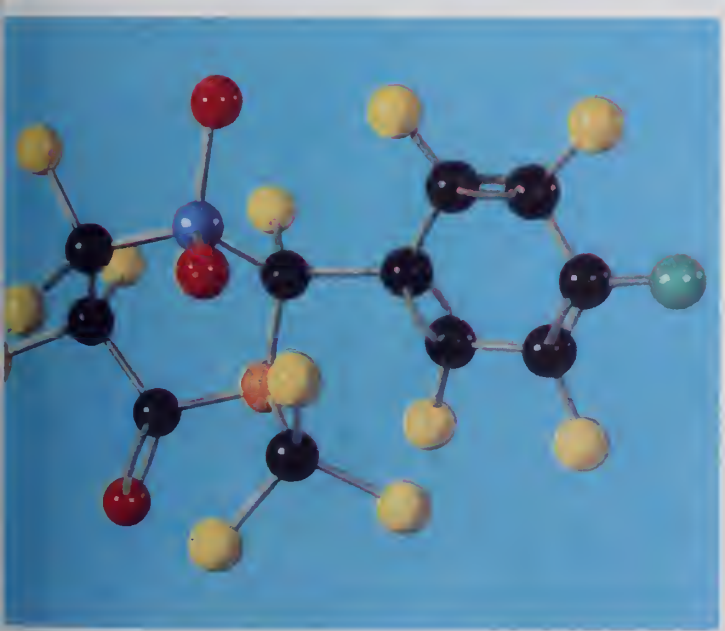
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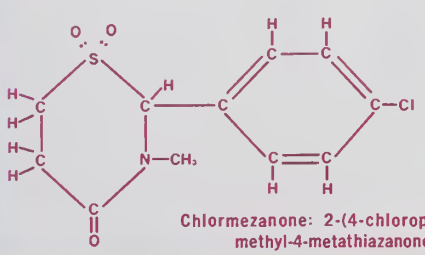
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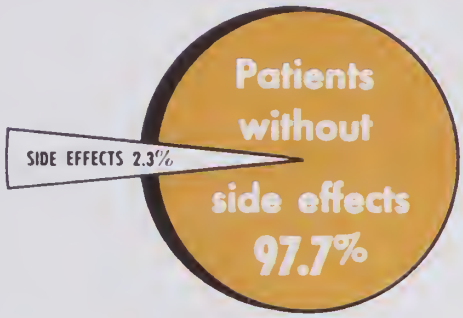
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INCIDENCE OF SIDE EFFECTS WITH TRANCOPAL IN 4483 PATIENTS



ANXIETY AND TENSION STATES

effective in 88% of 443 documented cases of DYSMENORRHEA

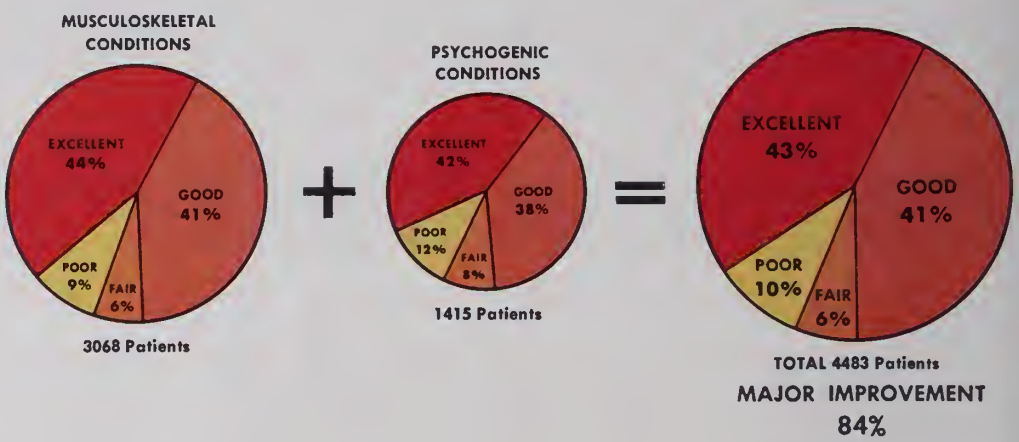
AND PREMENSTRUAL TENSION

Because of its exceptional calmative property, Trancopal "... allows the patient to use his energies in a more productive manner in overcoming his basic problems."[2]

Dosage: 100 to 200 mg. orally three or four times daily. Relief of symptoms occurs in from fifteen to thirty minutes and lasts from four to six hours.

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Clinical studies of 4483 patients by 105 physicians[1] have demonstrated that Trancopal often is effective when other drugs have failed. From these studies it is evident that Trancopal can provide more help for a greater number of tense, spastic, and/or emotionally upset patients than can any other chemotherapeutic agent in current use.



INDICATIONS

Musculoskeletal

- Low back pain (lumbago)
- Neck pain (torticollis, etc.)
- Bursitis
- Rheumatoid arthritis
- Osteoarthritis
- Disk syndrome
- Fibrositis
- Ankle sprain, tennis elbow, etc.
- Myositis
- Postoperative muscle spasm

Psychogenic

- Anxiety and tension states
- Dysmenorrhea
- Premenstrual tension
- Asthma
- Angina pectoris
- Alcoholism

Supplied: Trancopal Caplets® (scored) 100 mg., bottles of 100.

References: 1. Collective Study, Department of Medical Research, Winthrop Laboratories. • 2. Ganz, S.E: J. Indiana M. A. In press. • 3. Lichtman, A.L.: Kentucky Acad. Gen. Pract. J. 4:28, Oct., 1958.

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Triaminic provides more effective therapy in respiratory allergies because it combines two antihistamines[1,2] with a decongestant.

These antihistamines block the effect of histamine on the nasal and paranasal capillaries, preventing dilation and exudation.[3] *This is not enough;* by the time the physician is called on to provide relief, histamine damage is usually present and should be counteracted.

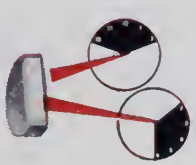
The decongestive action of orally active phenylpropanolamine helps contract the engorged capillaries, reducing congestion and bringing prompt relief from nasal stuffiness, rhinorrhea, sneezing and sinusitis.[4,5]

TRIAMINIC is orally administered, systemically distributed and reaches *all* respiratory membranes, avoiding nose drop addiction and rebound congestion.[6,7] TRIAMINIC can be prescribed for prompt relief in summer allergies, including hay fever.

References: 1. Sheldon, J. M.: Postgrad. Med. 14:465 (Dec.) 1953. 2. Hubbard, T. F. and Berger, A. J.: Annals Allergy p. 350 (May-June) 1950. 3. Kline, B. S.: J. Allergy 19:19 (Jan.) 1948. 4. Goodman, L. S. and Gilman, A.: Pharmacol. Basis Ther., Macmillan, New York, 1956, p. 532. 5. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 6. Lhotka, F. M.: Illinois M.J. 112:259 (Dec.) 1957. 7. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

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TRIAMINIC provides around-the-clock freedom from hay fever and other allergic respiratory symptoms with just one tablet q. 6-8 h. because of the special timed-release design.



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Also available: TRIAMINIC SYRUP for those patients of all ages who prefer a liquid medication. Each 5 ml. teaspoonful is equivalent to ¼ Triaminic Tablet or ½ Triaminic Juvelet. TRIAMINIC JUVELETS provide half the dosage of the Triaminic Tablet with the same timed-release action for prompt and prolonged relief.

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responsible for these infections are resistant to commonly used antibiotics.[1-3,5-14] Howe
this ubiquitous pathogen, according to studies from Germany,[8] Canada,[9] Uganda,[10] N
Zealand,[11] England,[12] and the United States,[13,14] remains sensitive to CHLOROMYCET

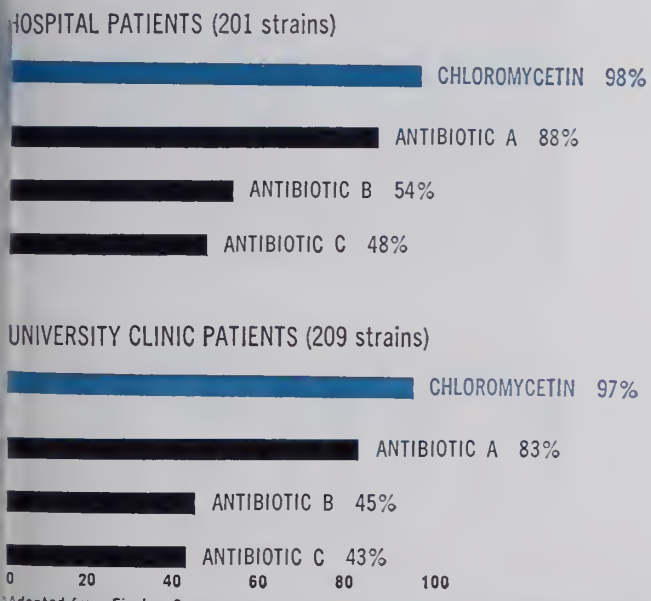
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with certain other drugs, adequate blood studies should be made when the patient requires prolong
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REFERENCES: (1) Smith, I. M.: Staphylococcal Infections, Chicago, Year Book Publishers, Inc., 1958, p. 21. (2) Pryles, C. V.: *Ped*
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(14) Borchardt, K. A.: *Antibiotics & Chemother.* 8:564, 1958.



N VITRO SENSITIVITY OF STAPHYLOCOCCI, FROM TWO SOURCES, TO CHLOROMYCETIN AND TO THREE OTHER ANTIBIOTICS*



*Adapted from Fischer.8

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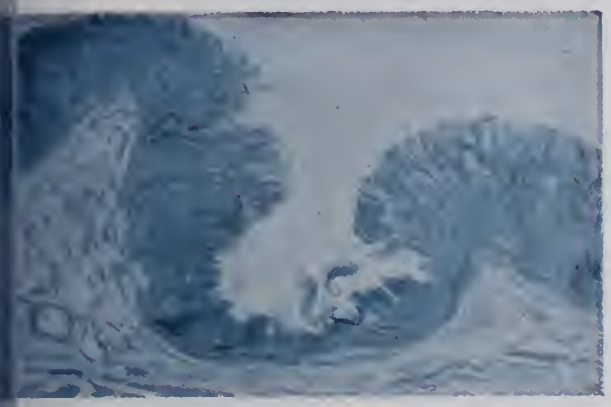
Regular aspirin crystals 24 hours after being mixed into water.



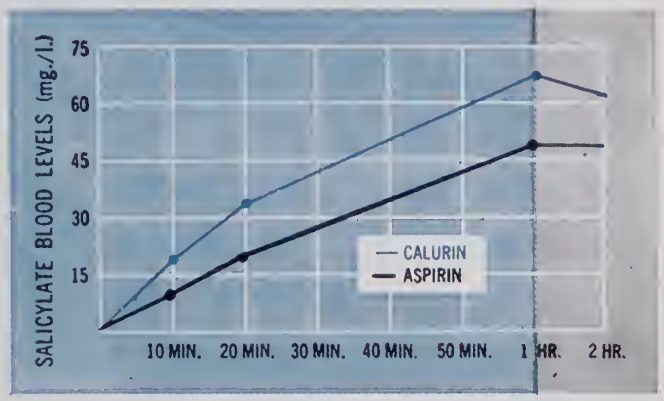
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icle-induced ulceration — section through lesion d in gastrectomy specimen. An aspirin particle was d firmly imbedded in this undermined erosion. Such ns may be associated with the relative insolubility spirin, which remains in particulate form after ersion in gastric contents.



Calurin, being freely soluble, is promptly available for absorption into the systemic circulation. Salicylate blood levels in 12 subjects receiving both Calurin and plain aspirin were found to rise more than twice as high within ten minutes following Calurin. Also, these levels persisted higher for at least two hours.[11]

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6 months to 2 years . . . . 1.5 to 2 cc.	
2 to 6 years . . 3 cc.	
adults and children over 6 . . . . . 1 tsp. (5 cc.)	

References: 1. Goldsmith, J. W.: Minnesota Med. 40:99 (Feb.) 1957. 2. Groskloss, H. H., et al.: Clin. Med. 2:885 (Sept.) 1955. 3. Weinberg, A., and Werner, W. E. F.: Am. Pract. & Digest Treat. 6:580 (April) 1955. 4. Crawley, C. R.: West. J. Surg. 8:463 (Aug.) 1956. 5. Tartikoff, G.: Clin. Med. 3:223 (March) 1955. 6. Dunn, R. D., and Fox, L. P.: Clinical exhibit. 7. Codling, J. W., and Lowden, R. J.: Northwest Med. 57:331 (March) 1958. 8. Dougan, H. T.: Personal communication. 9. Leonard, C. L.: Personal communication. 10. Steinberg, C. L.: Personal communication.

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4	The pioneer experiments on the effects of adrenalectomy were performed by Addison.	☐	☐

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JULY, 1959

Published Monthly
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Only Our Best*

• Americans, in the enjoyment of the material comforts of life, and indifferent to community and national interests, are apt to ignore the means of preserving those freedoms that they have come to believe are their rights.

GUNNAR GUNDERSEN, M. D.†
Lacrosse, Wisconsin

A FEW weeks ago I returned from a month-long trip to Australia and southeast Asia. The trip was both enjoyable and profitable, but more than anything it was enlightening. While returning to this country, I could not help thinking of how close the rest of the world is to us.

Indifference of Americans

It is difficult for Americans today, seated in their easy chairs before blaring television sets, to think of their way of life in contrast with that of many nations, and also with how the entire world lived until just less than 200 years ago. The ideas of freedom apparently mean too little to too many Americans today. Perhaps it is because we have never known any other way of life.

We criticize our government, express openly our religious beliefs or doubts, mingle freely with rich and poor alike. We do all this unconsciously, never fearing restraint or compulsion. We live in the land of the free, as the pioneers termed it. Or perhaps it has since become "the land of the free and easy."

However, not too long ago, the phenomenal liberty we think so little about was no more than a dream, a vision in the minds of men. There was a time when people who acted, thought, and spoke as we do today would have been imprisoned, fined, exiled, tortured, or killed.

But today we do not think of such unpleasantries, which to the modern mind seem so far back in history. Even when we read of tyranny and persecution going on now in other parts of the world, too many persons merely shrug their shoulders and return to the TV set, comfortable in the self-assurance that such atrocities could never touch them.

Besides, we have more pressing problems. We must decide which program to turn on tonight or whether the late movie is worth watching. We have our gossip columns in the newspapers and

* Presented at the Seventy-ninth Annual Meeting of the Louisiana State Medical Society Monday evening, May 4, 1959, New Orleans Louisiana.

† President, American Medical Association.

the exposé stories in the scandal magazines to keep us up to date on the intimate doings of modern-day heroes—movie stars, TV personalities, and sportsmen.

A celebrity's current love life is far more fascinating than the Communist blood bath in Hungary. Tibet and the Middle East are somewhere in another world.

If our all-important business and social problems become too crushing, we always have tranquilizers and alcohol.

More and more we seem to thrive on the trivial, the indifferent and the petty. Our lives continue to become more dedicated to the gods of comfort and profit. We coast along, fully confident that ours is the best of all possible worlds.

Is it really? What are we doing to see that it actually is the best of all possible worlds?

Today we concentrate on bi-level homes and automated factories, turnpikes and jet airliners, hi-fi and color-TV. Truly, we have sought the best in mechanical and technical marvels. But are Americans reaching out for the best in life—the best ideals of human conduct, the best possible government, the true glory of science and the true happiness of peace? For example, how many voters can an off-year election or a bond issue bring to the polls? How many persons are willing to serve on the jury today? Or how many times have newspapers and pollsters made surveys in which people have been asked to name the President, the Vice President, one of their senators, their congressman, and only a small percentage could give correct answers?

Why Americans have come to believe they are so unimportant baffles me. Somewhere along the line too many Americans have abandoned mental exercise for the TV set, have withdrawn from community service to the comforts of their showplace homes, and have become wishy-washy personalities in an effort to conform.

Perhaps, all the current emphasis on military weapons, commercialization, industrialization and urbanization has made the individual feel unimportant, inferior, and inadequate.

Importance of the Individual

Let us set ourselves straight on one point right now. Each American, in my opinion, is an extremely important individual, despite intercontinental missiles and colossal bombs of destruction, despite automation and automats, and despite giant corporations and gigantic labor unions. In addition to being important, Americans are not "average" or "common" as politicians, pollsters, economists, sociologists and others often label us. As a doctor I do not classify patients as average or common, and I do not think Americans want to be so classified. Certainly, in medical care each patient must be considered a distinct human being who is not average but exceptional, not common but quite uncommon. Physicians dare not look upon a patient as a set of symptoms, another case of pneumonia or a body merely to be examined or treated on an assembly-line basis.

Patients are not cold manikins. They are personalities with hopes, dreams, and aspirations. Consequently, physicians must minister to human hearts, minds, and emotions as well as to the human body and its ills.

Although we live with the cold, scientific age of frozen TV dinners, univacs and ICBMs, no one who deals with people should dare consider them less than total, personal individuals. Patients resent such treatment, and I am sure all of us do in our lives in the community.

So consciously or unconsciously, many Americans have developed an inner feeling of importance and an outer display of unimportance, uncertainty and confusion.

As Americans in an age of world political strife we cannot continue with this kind of mixed-up attitude and philosophy of life. A democracy cannot survive when its people consider themselves unnecessary and unimportant to the functioning of government and to the elevation of human well-being.

Necessity for Citizen Participation

Democracy demands that each person take seriously the vital responsibilities of citizenship no matter what his economic or social station in life, and no matter whether he holds a degree from grammar school, high school, college or graduate school.

Without personal participation, thought and action by as many persons as possible we cannot hope to realize a better way of life for ourselves and our loved ones. We cannot reverse some of the present trends that imperil the vitality of our communities and our nation.

Why then the apathy . . . the reluctance . . . and the lack of responsibility?

Just as organized medicine cannot attain its high goals without the help and cooperation of individual doctors and local societies, so an organized society cannot provide the best for its members without voluntary interest and action by its citizens. As physicians we have joined together in our medical societies because individually we cannot provide many things we require as professional men. The same is true in society. As citizens we want the same things and we can obtain them only by common action.

In society we must be *sufficiently concerned* with the common good. In the community it is not enough merely to vote, pay taxes and observe the laws. We must meet our responsibilities in *full measure*. Only if we are completely satisfied with the state of governmental affairs, can we justify our non-participation. And who among us is fully satisfied? Certainly there is always room for improvement.

Who among us has not said: "Our national government is a mess." Or, "the zoning board really blundered in that last industrial case." You have said it, and so have I. But the important question is: What are we doing about it?

In a democracy the individual still is a vital cog in the operations of a community or state. Therefore, no one need feel that his individual actions do not count. While our nation has been leaning more to the dogma of mass man, we need re-emphasize the importance of the individual.

Currently around the nation individuals are asserting themselves. One-man crusades for good government, lower taxes, and better schools are being waged. Individuals are sowing ideas that have bloomed, or will bloom into city, state or nation-wide programs.

For example, a Washington editor some time ago suggested that political parties seek contributions from all citizens—not just from donors of large sums of money. This idea now is being used by our political parties and dollar contributions are being accepted from individuals throughout the nation. You don't have to be an editor, a lawyer or a businessman to enter into civic affairs.

I frequently have urged physicians to offer ideas, to support ideals of sound government and to act individually or with others for the best in political, social and economic life today. There are scores of groups you can associate with —civic clubs, charitable organizations, church units, youth groups, parent-teacher associations, and others.

Interest in Politics

But I think we should also join political parties and their activities, citizen committees, better government leagues, reform movements, taxpayers federations, and constitutional government organizations. Many of these have an excellent message to get to the public. They need and deserve help in their efforts to promote the best in government.

That we can attain a more perfect government and can eliminate the negative and the evil by emphasizing the positive and the good, I have no doubt. Success, however, is not inevitable; failure is not either.

We cannot sit and dream about all this. We cannot dawdle away precious time. We cannot stand still. Unless we move steadily upward to higher moral and political goals in our society, we may

instead lose our freedoms and rights and possibly our very lives.

Freedom in Doctor-Patient Relationship

In medicine we know that first-rate medical care cannot survive if patients and physicians are shackled by rules, regulations, controls and assembly-line procedures. Therefore, medical doctors have opposed or defeated schemes to lessen patients' freedom to select their own physicians, to control the medical profession, to place government in the doctor-patient relationship, and to substitute red-tape medical care for prompt, efficient and personal attention.

We have been damned and lauded for our sustained efforts to maintain and improve doctor and patient freedoms.

We make no apologies to our critics, for we oppose rigid ideologies or systems which if established would bury the individual doctor and patient in the mass and reduce them to numbers or nonentities. In medicine, as in public affairs, human minds, hearts and souls that are oppressed cannot find true expression.

We in medicine see the need to treat men and women as important individuals. We see the urgency of strengthening the democratic spirit and government by-the-people. And we see the necessity of opposing opportunism, expediency and materialism and promoting the ideals of freedom, personal responsibility and individual initiative.

As Americans, we all must realize that the ultimate test of a good and successful life is not the material goods we leave behind, but whether we have been true to these ideals, and whether our reach in behalf of humanity has exceeded our grasp.

We owe it to ourselves, to our freedom-loving fellow men and to our democracy to do no less.

I think we would do well if we asked asked ourselves:

"What am I doing to maintain the best in our free society?"

And "What am I going to do from this day on?"

If we ignore these questions, or if we answer them half-heartedly, all the evils of our present society will grow and inevitably crush us.

The task is yours and mine. All the alibis in the world cannot take the responsibility off our shoulders.

Newspaper columnist Dorothy Thompson summed up our nation's needs some time ago in these few well-chosen words:

"What this country needs are some old-fashioned American radicals, some old-fashioned American constitutional conservatives and a few thousand articulate citizens who still have some guts in their bellies and brains in their heads."

I hope that all of you will include yourselves in one of these categories.



Charity Hospital

So great has been the number of applicants for admission into this Hospital, that its accommodations have been extended as far as possible. The good Sisters of Charity, (twenty of whom reside in the Hospital), with their accustomed readiness to sacrifice their personal comfort to the claims of suffering humanity, have given up three of their private apartments to be converted into wards. On the 25th of June we were informed by the Clerk that there were nearly 800 patients in this Hospital. At the present rate, the annual admissions will probably amount to between *ten and twelve thousand.*

New Orleans M. & S. J. 4:142 (July) 1847.

The Tetanus Problem in the South

• A campaign to warn and educate all in regard to the alarming prevalence of tetanus in Louisiana and the eleven "Confederate States" has been launched and the need for tetanus protection urged.

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THE tragedy of tetanus lies in the fact that it is needless suffering for all concerned. The efficacy and safety of tetanus toxoid immunization is well established and it is as close to being 100 per cent effective as any biological can be. No greater proof of this need be given than the record of World War II. Out of almost 3 million hospital admissions for wounds and injuries, only 2 deaths occurred from tetanus in personnel who had received adequate immunization (basic and booster).[2] It has been estimated that there were perhaps 5 or 10 million wounds in toto, and although proper wound care obviously played a significant part in military tetanus protection, tetanus toxoid immunization is felt to have played the major role in this spectacular record. It can be said then that such active immunization is almost completely effective, very simple to administer, most inexpensive, and safe as any immunization product can be. It also obviates the dilemma involved over administration of serum.

Prevalence

Taking the figures available from 1952 through 1956,[3] the death incidence of tetanus in the United States is 0.19 per 100,000 population. During these five years 1,543 people died of this disease in the United States with an average of 309 deaths per year. The unequal geographical distribution of the incidence of tetanus, however, may be illustrated by selecting the 11 "Confederate States" as one area and the 37 states remaining as a comparative area. The former contained 24 per cent of the population of the United States but 63 per cent of the deaths from tetanus. This means 0.50 deaths per year per 100,000 population for the "Confederate States" compared with 0.09 for the other 37 states and 0.19 for the United States at large. It would seem that the problem of tetanus in the United States, statistically speaking, could largely have been solved by allowing secession. Be that as it may, the effectiveness of any campaign to eradicate this preventable disease must be initiated in those areas where its incidence is highest.

It would be very difficult, for instance, to determine the effectiveness of a campaign for mass tetanus toxoid immunization of the people in Nevada, Utah, Vermont, or Wyoming, since they have not had a death from tetanus reported in any of the five years mentioned. It would likewise be difficult in Colorado, Oregon, or Rhode Island, with only one death each or in South Dakota and New Mexico with only two each for the entire five year period.

The problem in the South, however, is a great deal different. The leading 12 states in the United States with regard to deaths per 100,000 population per year are Florida 0.83, Mississippi and Texas 0.65, Louisiana 0.58, Alabama 0.56, Georgia 0.47, Arkansas 0.46, South Carolina 0.32, Tennessee 0.30, North Carolina 0.28, Oklahoma 0.26, and Virginia 0.25. These,

it should be kept in mind, are the deaths reported from tetanus and not the number of cases. Since the mortality of the disease varies and averages around 50 per cent, the number would be roughly doubled for the case incidence of the disease. Although we are not proud of it, in the twelve "winners" listed above you see all eleven members of the "Confederacy" plus Oklahoma.

Louisiana, fourth in the United States for the five year period, actually led the nation for the single year, 1956, with 0.72 deaths per 100,000 population, while Florida, a consistent "winner", ran second with only 0.70 for that year. These are obviously fertile fields for instigation of preventive measures. This fact has been recognized by the Dade County Medical Association of Miami, Florida, and the Orleans Parish Medical Society of New Orleans, Louisiana. The former instituted a Mass Tetanus Toxoid Immunization Drive last fall (1958) with some success, while we in New Orleans are currently conducting a similar program. At its recent meeting (May 1959), the House of Delegates of the Louisiana State Medical Society recommended the same for all component parish societies. It is hoped that this idea will take root and spread, not only through the "Confederate States" and Oklahoma, but all through the country. This hope is shared (and is a matter of record) by the Committee on Trauma of the American College of Surgeons and the American Association for the Surgery of Trauma. As a matter of fact the project in New Orleans is a joint function of the Committee on Trauma of the Louisiana Chapter of American College of Surgeons and the Orleans Parish Medical Society.

The Organism

Clostridium tetani is a spore forming anaerobic organism, almost ubiquitous in occurrence, which thrives on nonviable tissue. As is well known it is present in the soil, primarily of agricultural communities, and where cattle and other animals are present. In addition, it is found normally in the alimentary canal of many humans and has caused deaths in routine elective surgery such as gastrectomy, appendectomy, hemorrhoidectomy, dental extractions, etc. An infection with *Clostridium tetani* does not produce a fulminating type of local infection but causes its damage by means of liberation of exotoxin which circulates and then becomes fixed in the central nervous system. In other words the infection per se is not the primary factor, but the toxin released is a deadly one which could be easily neutralized with antitoxin produced by prior active immunization.

Tetanus Toxoid

Active immunization has been in wide spread use since a year or two prior to the onset of World War II. There are two types of Tetanus Toxoid on the market: (1) Fluid Toxoid (plain or "clear"), and (2) Mineral Adsorbed Toxoid ("milky" or Alum Precipitated or Aluminum Hydroxide Adsorbed or Aluminum Phosphate Adsorbed). The chief distinction between these two is that Fluid Toxoid requires four shots for a series while Mineral Adsorbed Toxoid requires only three. A slight theoretic advantage for Fluid Toxoid is that a booster dose produces a rise in titer about one day sooner in previously actively immunized individuals. For all practical considerations, however, Mineral Adsorbed Toxoid can be used exclusively, even though it has a slightly higher incidence of mild local reactions. No skin test need be given and the incidence of sensitivity to this agent is very low. Reactions do occur but are mild in nature and consist of perhaps local redness or swelling and low grade fever for a few days. These reactions can be treated with cold applications and aspirin.

Everyone should receive this immunization as a routine protection against minor injuries which we are all prone to receive. In addition, it is a most important civil defense measure as protection against any major catastrophe which might occur. Special emphasis, however, should be

given to certain groups and protection urgently recommended. These groups consist of (1) industry in general; (2) all veterans who would require only a single booster shot to bring them up to date; (3) all teenagers, who if they have had their shots as children, would again need only a booster shot to bring them up to date; (4) all athletes who might frequently sustain injuries on the ground or elsewhere; (5) pregnant women who could be assured that neither they nor their newborn would get tetanus; (6) all recipients of an automobile driver's license; and (7) all "allergy prone" individuals. This grouping should in no way deemphasize the importance of this immunization to the entire population.

Tetanus Serum

Antitetanic Serum (ATS) (or Tetanus Antitoxin (TAT)) comes most often from equine origin and should be avoided as much as possible because of the discomforts of the highly prevalent types of serum sickness or the dangers of anaphylaxis. It is also recognized that when given at the time of injury, this substance is not nearly so effective as Tetanus Toxoid given before injury and perhaps again at the time of wounding. It should be emphasized that Tetanus Antitoxin should not be given unless real indications exist. The reason for this statement is that an increasing percentage of the population is showing sensitivity to horse serum and more than one out of ten people who receive it manifest some form of serum sickness. Bovine and human tetanus antitoxin are available as substitutes for this passive immunization, but none of the three can take the place of the protection afforded by active immunization. Prior to the administration of any serum, a careful history of allergy and reaction to previous tetanus shots should be sought. If this history is negative and there is no history of allergy to horse dander, etc., then eye test or skin test should be performed with diluted solutions. If all of these are negative, and the indication for its administration is present, then an appropriate dosage of the serum should be given. Of significance is the fact that a protective level from passive immunization is present for only a few days to a week or so ordinarily when only 1500 units is given. Higher dosage of course provides a proportionately longer period of protection and obviates the need for repeated dosage. This repetition of the administration of horse serum, as is commonly known, will more likely lead to sensitization.

Local reactions to tetanus antitoxin are common, as stated above, and can be treated with cold applications and aspirin. The serum sickness which frequently results can be treated similarly and with antihistamines, adrenalin, sedatives, codeine, bed rest, and steroids can be used if indicated.

Wound Care

Established surgical principles are not to be forgotten, regardless of the status of prior tetanus protection. All wounds should be thoroughly cleansed and debrided of all foreign material and nonviable tissue. Local or general anesthesia should be used if necessary and all wounds carefully cleaned, debrided and irrigated with running water or saline and hexachlorophene detergent (or soap). If the organisms *(Cl. tetani)* are removed by this process, there obviously can be no toxin produced. Similarly if the wound is a surgically clean and aerobic one, with good blood supply, then the body's defense mechanism and the organism's natural characteristics will prevent multiplication. It should be emphasized again that *Cl. tetani* is an anaerobic organism which does not multiply in the presence of oxygen either from the air or from the blood stream through normal circulation to the wound edges.

Antibiotics

The organism, *Cl. tetani*, is sensitive to antibiotics,[1] particularly penicillin, if given for adequate length of time and in sufficient dosage. Antibiotic administration, however, cannot be relied upon as the sole protective measure, since antibiotics

may not be effective under adverse wound conditions. If antibiotics are used, their administration should start preferably within a few hours of wounding and continue for some days thereafter. It should be remembered, however, that these antibiotics have no activity against circulating or fixed toxin. Their effect is only upon the organism (*Cl. tetani* and others), to kill or to prevent multiplication and release of tetanus toxin. Fixed toxin cannot be altered by any mechanism except the passage of time. Circulating toxin, however, can be neutralized by antitoxin. This is done best with antitoxin produced actively within the patient's own body.

Summary

This can be expressed perhaps no better than by statements of a "Suggested Guide" as put out by the Committees on Tetanus Protection of Orleans Parish Medical Society and the Committee on Trauma of the Louisiana Chapter of the American College of Surgeons. This has been published in the June 1959 issue of the Bulletin of the Orleans Parish Medical Society and permission of these committees, of which one of us (RAF) is a member, has been obtained to repeat it below:

I. WOUND CARE

1. Thoroughly clean and debride all wounds; use local or general anesthesia if necessary; remove all foreign material and nonviable tissue.
2. Excellent cleansing of the wound can be obtained with Hexachlorophene detergent (or soap) and *running* water or saline irrigation.
3. *Clostridium tetani* is an anaerobic organism; oxygen inhibits its growth.
4. Leave "tetanus prone" wounds open, particularly when it is impossible to be certain of having removed all foreign material and nonviable tissue.

II. TETANUS TOXOID

5. If previously immunized with tetanus toxoid, administer 0.5 cc. booster dose for new wounds. This is not ordinarily necessary if a booster dose or the primary series were received within the preceding twelve months.
6. Tetanus toxoid *booster* dose produces a protective level of antibodies within four to six days. This "lasts" for one to five years and may be "recalled" up to eleven or more years.
7. If not previously immunized actively with tetanus toxoid, utilize the current wound as an opportunity to begin long range immunity and give the patient a written card to keep on him at all times to remind him and others of this immunization. This is the best possible future prophylaxis.
8. True sensitivity to tetanus toxoid is very rare; mild reactions do occur.
9. For a primary series, use mineral adsorbed ("milky") toxoid preferably, giving two injections about a month apart and a third injection six to twelve months later.
10. If fluid toxoid is used, give three injections about a month apart and a fourth injection six to twelve months later.
11. A "routine" tetanus toxoid booster dose is recommended about every five years.
12. The administration of tetanus toxoid and tetanus antitoxin (TAT or ATS) at the same time is recommended by some for certain situations. If chosen, use separate syringes and needles in different arms.

III. SERUM

13. Tetanus antitoxin does not attack the organism, *Cl. tetani*, but merely neutralizes the toxin being produced by living organisms.
14. Tetanus antitoxin is not needed in truly uncontaminated wounds.
15. The relative danger of reaction to tetanus antitoxin versus the danger of tetanus must be considered.
16. Tetanus antitoxin 1,500 units, "lasts" only a matter of days, whereas 4,500-20,000 units "lasts" a matter of weeks.
17. In persons sensitive to horse serum (as determined by history, eye test,

or skin test), tetanus antitoxin in the usual equine preparation is dangerous and probably useless. Bovine and human tetanus antitoxin are available as substitutes.

IV. ANTIBIOTICS

18. *Cl. tetani* is usually sensitive to antibiotics, particularly penicillin; this fact cannot be relied upon, however, as the sole protective measure under certain adverse wound conditions.
19. Antibiotics have no effect upon the toxin already produced by living organisms; they attack only the organism, and do so best when given within a few hours of wounding and for some days thereafter (in adequate dosage and for adequate length of time).

NOTE: The authors gratefully acknowledge the technical assistance of Mr. Harry L. Shaheen and Miss Judy M. Honeycutt.

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Health of the City, November 1, 1847

We shall continue hereafter, as heretofore, to make a few passing remarks upon the sanitary condition of our city. In our September number, it was stated that the Board of Health had declared yellow fever to be epidemic. Events which have transpired since that announcement have fully verified, we regret to say, the assertion of the Board.

The fever made its appearance about the 1st of July, and began to decline, in accordance with the laws of epidemics, about the latter part of September; and by the 1st of October, the deaths daily were about ten. Thus the epidemic as such raged about six or seven weeks. It attacked many who had passed unaffected through the season of 1839 and 1841; some who had been permanent residents for several years fell victims to the disease. In some of its features it differed from former epidemics.

We had fewer cases of black vomit; and many who were attacked with this usually fatal symptom recovered. In many cases, the fever terminated in 24 hours; in others it raged for 56 to 72 hours. Nor was the issue of the case materially influenced by the duration of the fever. Since many in whom the fever continued for three days recovered as promptly as those in whom it ceased at the end of 24 hours. Throughout the disease the head-symptoms were striking and obstinate; and many, very many succumbed with all the symptoms of congestion of brain.

Interments in the city of New Orleans from the 3rd of July to the 18th of October, 1847, inclusive, were 3990, of which 2241 were deaths from yellow fever.

New Orleans M. & S. J. 4:404 (November) 1847.

Pregnancy in Previously Infertile Patients*

• "He gives the barren woman a home, making her the joyous mother of children." — Psalms 113:9

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SINCE recorded history, the plight of the barren woman has been of concern, not only to the medical profession, but also to mankind at large. In spite of the present-day population spiral with its economic implications [1] we devote an increasing effort to correcting the causes of infertility. In this enlightened age we recognize that it is not always the female partner who is at fault but that both husband and wife must be considered together. Many articles have been written concerning the investigation and treatment of infertility but relatively few deal with the infertile marriage after pregnancy has occurred. It is our purpose to report on a series of 100 women, seen at the Mayo Clinic, whose main complaint was primary infertility and who have achieved pregnancy. We shall discuss briefly the therapy of the infertility in these patients, the management of the pregnancy, and the delivery and its outcome.

Investigation of Infertility

The management of the infertile couple at the Mayo Clinic necessarily differs somewhat from that afforded by most physicians. For the most part, our investigations deal not with the local population but with patients coming from a distance. A diagnostic survey is made of these patients, an opinion is given as to the cause of the infertility, and they are then referred to their home physician for further care. In a relatively small group, definitive care over a prolonged period is given. Therefore, comparison of our results with those of others is difficult. A comparison of the two groups of patients seen at the Mayo Clinic is given in detail in another paper.[2] For the group of women who were treated intensively, that is, for three months or more, the incidence of pregnancy was 49 per cent; the majority of the 100 cases in the present series fall into this group.

The usual investigation of infertility at the Mayo Clinic includes the following procedures:

1. A careful and complete medical history that stresses information on any pelvic operations and on any infections or diseases of the reproductive tract. The history also includes a detailed description of sex technic, frequency of coitus, and previous investigation of infertility.

2. A thorough physical examination, not limited to the reproductive tract but seeking any endocrine abnormalities or specific disease entities that may be present.

3. Routine x-ray and laboratory studies which include a roentgenogram of the thorax, hemoglobin and leukocyte determinations, blood grouping, serologic test for syphilis, urinalysis, determination of basal metabolic rate, and any other indicated procedure.

4. A semen analysis. Careful instructions as to the proper collection of the specimen are given. Wherever possible, it is always obtained concomitantly with the definitive studies on the woman.

5. A tubal inflation and endometrial

* Presented at the Seventy-ninth Annual Meeting of the Louisiana State Medical Society, New Orleans, Louisiana, May 6, 1959.

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† The Mayo Foundation, Rochester, Minnesota, is a part of the Graduate School of the University of Minnesota.

biopsy. The endometrial biopsy is usually done immediately after the tubal inflation if the results of the latter examination are normal. As the endometrial biopsy is most informative when done between the twentieth and twenty-fifth days of the menstrual cycle, these examinations are done at this time.

6. A hysterosalpingogram. If no evidence of patency is found or if any abnormality is evident at the time of inflation with carbon dioxide, endometrial biopsy is deferred until a hysterosalpingogram has been made.

7. Other tests, such as the Hühner or postcoital test, spinnbarkeit, determination of fern pattern and hormonal assays, are performed if indicated.

The treatment of these patients varies according to individual findings, and no set pattern can be delineated that will be followed in all instances. The treatment afforded the present series will be discussed in detail.

Observations in 100 Cases

Duration of Infertility.—Figure 1 gives information on the duration of primary infertility in this group. No patient was considered for inclusion unless her infertility had existed for one year or more. It is seen that the majority of the group had been infertile for two to four years. The average age of the group was 27.2 years, the extremes being 19 years and 36 years.

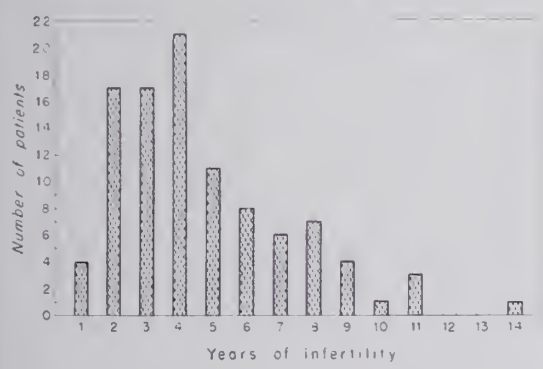


Figure 1. Duration of infertility.

Semen.—The semen analysis is considered to be an essential part of the investigation of any infertile couple. The semen was examined in 80 of the 100 couples (Table 1). The remaining 20 were not so examined for a variety of reasons including unavailability of husband, nature of religious belief, failure of husband to cooperate, loss of specimen, and others. In those whose sperm counts ranged from 20,000,000 to 60,000,000 per cubic centimeter there were almost as many normal full-term pregnancies as there were in those whose counts exceeded 60,000,000. Also those with counts of less than 20,000,000 apparently produced six normal full-term pregnancies. There is an unknown variable in any of these statements, for we have not necessarily proved the husband to be the father of the child. But, in general, certain answer to this question is academic.

Treatment.—As mentioned previously, the methods of treatment of the infertility have varied widely. Table 2 shows the various modalities most commonly used by our group but by no means includes all of the modifications of the main forms of therapy. Twenty-six of the 100 patients received no special therapy other than the complete investigation of infertility and the recommendations made upon conclusion of that investigation. These

TABLE 1
OUTCOME OF PREGNANCY RELATED TO SPERM COUNT

	Sperm count, 1,000,000 per cubic centimeter				Total Patients
	>60	20-60	<20	No Specimen	
Normal full-term pregnancy	30	24	6	14	74
Stillborn at term	1	1			2
Abortion	5	9	1	5	20
Ectopic pregnancy	2				2
Fetal anomaly				1	1
Hydatid mole		1			1
Total	38	35	7	20	100

TABLE 2
TREATMENT OF INFERTILITY

	Patients*
No treatment	26
Surgical procedure	24
Therapeutic inflation	18
Hormone therapy	77
Estrogen	26
Progesterone	11
Thyroid	39
Cortisone	1
Therapeutic irradiation	8

* The sum of the numbers given exceeds 100, the total number of patients, because some patients received more than one kind of treatment.

recommendations included detailed instruction in coital technic and timing of coitus where indicated. The value of leading a "rational" existence is stressed with the avoidance of tension - producing situations, adequate recreation, rest and diet. Often a multiple-vitamin preparation is prescribed for both partners. If no attempt has been made to use a temperature chart it occasionally is demonstrated. We tend to limit its use to a few months or until some indication is evident as to whether there is a clear-cut temperature shift that can be utilized. This is by no means a routine measure, nor one in which too much reliance is placed if it is used. One of the main features of the interview at which these recommendations are made is the attempt to answer any questions that either the husband or the wife may have. Therefore, all patients receive some therapy following the investigation.

Of 24 patients who received some form of surgical therapy for their infertility, 9 had cautery of the cervix varying from office cautery to deep surgical cautery for endocervicitis. Four patients had conservative removal of sites of endometriosis in the pelvis. Seven underwent dilatation of the cervical os because the diameter of the os was felt to be a factor in the infertility. Two had tubal implantation because of obstruction of the tubes. Two patients underwent plastic procedures on the introitus because intercourse had never been consummated; one of these had been married seven years, and since the operation she has rather rapidly given birth to four children.

Therapeutic inflation was performed in 18 patients a varying number of times. We use either the carbon dioxide inflation or the so-called gas-oil-gas technic approximately one or two days before the estimated time of ovulation. The latter consists of inflation with carbon dioxide until patency is demonstrated by a fall in manometric pressure, then about 5 cc. of radiopaque oil is injected, and this is followed by the injection of more carbon dioxide. This latter technic has proved more effective therapeutically than has the carbon dioxide technic alone.

Hormone therapy was utilized to a considerable degree in this series. Its purpose was to correct menstrual disorders or enhance endometrial function, or to stimulate ovulation. The estrogen administration varied from that of 0.1 mg. of stilbestrol given daily to that of conjugated estrogens (premarin) given cyclically in physiologic doses. The progesterone was administered usually in one of two ways: either as part of the cyclic replacement therapy or occasionally in a 100 mg. dose on the twenty-fourth day of the cycle. When thyroid was used it was given in amounts sufficient to raise the basal metabolic rate to approximately zero. This was not on the basis of clinical thyroid disease. The single instance of cortisone administration occurred in a patient with an adrenogenital syndrome who after treatment became pregnant and delivered successfully at term.

Therapeutic irradiation was administered to the pituitary and ovaries in 8 patients. It is not our wish in this paper to enter the polemic regarding genetic damage.[3] We have used this means of therapy for anovulation for many years with considerable benefit.[1] That ultimate harm is inherent in low-dosage irradiation to the human ovary has not been proved. In our hands it is used only in carefully selected cases after all other means of therapy have failed and after full discussion with the patient. In the 8 patients, 2 spontaneous abortions and 1

stillbirth occurred in the first pregnancy following treatment. Five normal-appearing full-term infants resulted. Subsequent normal pregnancies have occurred in some of these patients.

Information on the interval between active treatment and onset of pregnancy is given in table 3. Almost half (48 per cent) of the patients became pregnant within six months after being seen for the last time. However, 26 patients became pregnant more than two years after active supervision for their infertility had stopped. Certainly, no credit can be claimed for the pregnancies in the latter group. Although too small to be statistically significant, there was no difference in the percentage of full-term normal pregnancies in the two groups.

TABLE 3
INTERVAL FROM LAST THERAPY FOR INFERTILITY TO CONCEPTION

Interval	Patients
0 to 3 mo.	34
3 to 6 mo.	14
6 to 12 mo.	9
1 to 2 yr.	17
2 to 5 yr.	20
More than 5 yr.	6
Total	100

Results of Initial Pregnancy—The results of the initial pregnancies in this group of 100 women are indicated in Table 1. As may be seen, 74 pregnancies continued to term and resulted in the delivery of normal infants. The reason for the two stillbirths at term was not apparent. One infant with anomalous development, who succumbed in the neonatal period, had adactylia of the right hand with malformation of the bones of the forearm and shoulder girdle. The death resulted from a massive cerebral hemorrhage in spite of a normal spontaneous delivery. No sperm count was available on the father.

Of the 20 women who had spontaneous abortions before the fourth month of gestation, 9 are known to have had normal full-term pregnancies subsequently. The two ectopic pregnancies required salpingectomy. Both of these patients had normal patency of the fallopian tubes to carbon dioxide at the time of the original investigation. The patient in whom a hydatid mole developed has not become pregnant subsequently.

Duration of Labor.—Information on the duration of labor for 46 patients with full-term pregnancies who received prenatal care and were delivered under our supervision is given in Figure 2. The average

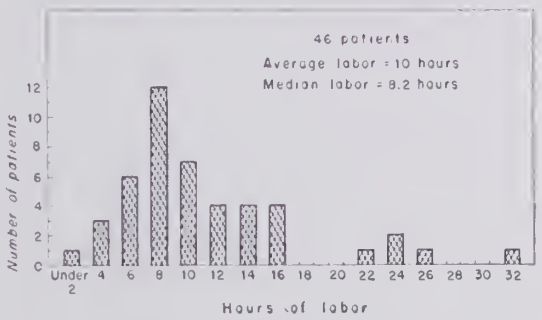


Figure 2. Duration of labor.

duration in these primiparas was 10.0 hours and the median duration was 8.2 hours; this average is not strikingly different from the average in primiparas in general. Of clinical interest is the fact that far less analgesia was required in these patients than in the usual primipara. In general, they seemed to approach labor with a calmer and more enthusiastic feeling than do most patients. There were, of course, exceptions. Complications of labor were few. One patient required a cesarean section for pelvic contraction. Manual rotation and mid forceps delivery were necessary in one 38-year-old woman. True uterine inertia developed in only one instance and resulted in a low forceps delivery. The great majority of patients were delivered by means of elective outlet forceps or spontaneously.

In 13 of the 46 patients, estrogen or progesterone or both were used during pregnancy. In most instances these medications were started following the appearance of vaginal spotting or bleeding. The birth weight of the infants born of these 46 patients was not essentially different from the birth weight of children of any group of primiparas seen in our practice (table 4).

TABLE 4
SIZE OF INFANT

Weight, gm.	Infants
<2500	4
2500 to 3000	6
3000 to 3500	23
3500 to 4000	12
4000 to 4500	1
Total	46

Of the entire group of 100 patients under consideration, 33 are known to have had one or more subsequent pregnancies after the first.

Management of the Infertile Woman

The management of the infertile woman during her first pregnancy requires special consideration. These patients receive the confirmation of pregnancy with great elation. For many of them it is the elimination of seemingly endless menstrual cycles and considerable treatment, much of it painful in nature. They approach their pregnancy with eagerness and a great desire to follow all of the physician's instructions during pregnancy. They often become very dependent upon the attending physician. During the first prenatal visit an apparent lack of interest or brusqueness on the part of the physician may result in a considerable loss of support. In addition to this general approach to the patient, many members of our group follow the practice of making specific recommendations as to the conduct of the pregnancy. Of the nine obstetricians, five request the patients to abstain from any vigorous or strenuous activity at the time of the expected but missed menses.[5] Six recommend that there be no coitus during the first three to four months. One performs no pelvic examination during the first trimester of pregnancy. Two see the patient more frequently than the regularly monthly visits. Two physicians make no special recommendations. All this, of course, is based on the assumption that no sign of difficulty has arisen. All the physicians are agreed that any untoward symptom is treated more vigorously and more attentively than in the usual primipara.

Summary

One hundred consecutive patients who presented infertility as their primary complaint and who have achieved pregnancy are reported on. There was a pregnancy wastage of 26 per cent in this group, which is slightly higher than one would anticipate. In 26 per cent an interval of two years or more occurred between the time of infertility therapy and the occurrence of pregnancy; no credit can be given the infertility therapy for the pregnancy in these instances.

An attempt has been made to describe a practical approach to the problem of infertility and to the management of pregnancy resulting from the successful termination of the infertility. This method has proved useful under the conditions of medical practice described. No rigid system has been adhered to; rather, the individual patient and her problems have guided our attack on this highly personal and emotionally charged problem.

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Treatment of Prostatism*

• The causes of prostatism, the symptoms, and the conservative and surgical treatment are outlined by the author.

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PROSTATISM as defined by Dorland's Medical Dictionary is "a morbid state of mind and body due to prostatic disease, especially the condition which results from obstruction to urination due to prostatic hypertrophy."

Symptoms

The symptoms of prostatism are frequency, urgency, nocturia, diminishing urinary stream, hesitancy, dribbling, strangury, and finally acute retention. Lower abdominal and perineal pressure are common. It is true that "a morbid state of mind" frequently accompanies the physical symptoms as the patient recognizes his voiding difficulties as a sign of advancing years.

The dramatic change from the depressed preprostatectomy patient to the cheerful postprostatectomy patient does not fail to draw comment from internes during their tour of the G. U. Service. The prolonged debility prior to seeking medical aid, as well as the "its just your age" attitude, contribute to the patient's mixed emotions of hopelessness and fierce denial of any infirmity. This emotional outlook of the patient prevents the casual medical practitioner from obtaining an accurate history.

Sometimes, even though seeking medical aid to ease his voiding symptoms, the patient will so understate his case as to make the uninquisitive physician wonder why he bothered to come in. A family history of father keeping the rest of the family awake by his nocturnal rambling and bathroom noises is valuable. Frequently he will present with seemingly isolated symptoms which a careful history and examination prove to be secondary to long-standing prostatism. These "secondary symptoms" may be referred from the enlarged obstructive prostate or be the direct result of ascending infection and or renal decompensation.

Diagnosis

An accurate diagnosis is essential to proper treatment. A transurethral resection for nonobstructive prostatitis is as useless a procedure as repeated prostatic massage for the man with chronic dribbling retention and both are dangerous.

Benign prostatic hypertrophy is the chief etiology of prostatism. It is a hypertrophy and hyperplasia of the glandular and fibromuscular elements of the prostate. It most commonly develops from the submucosal glands of the lateral and middle lobes of the prostate. As the adenoma grows it displaces and compresses the normal prostate peripherally to form the surgical capsule which accounts for the easily defined plane of cleavage in enucleating a prostatic hypertrophy.

Prostatic hypertrophy per se is symptomless and causes difficulty only by virtue of its circumferential placement around the urethra. Prostatism develops as a result of the increased intravesicular pressure needed to push the urine past the compressed prostatic urethra. The bladder wall undergoes work hypertrophy and loses some of its elasticity. Therefore, the total bladder capacity is reduced which increases the frequency of urination. The effective bladder capacity is still further decreased by the inability of the bladder to completely empty. This voiding off the

* Presented at the Seventy-eighth Annual Meeting of the Louisiana State Medical Society, in Shreveport, May 7, 1958.

top of a residual again increases the frequency of urination. It is more accurate to speak of the decreasing volume of each voiding as the prostatic patient invariably limits fluid intake to control the frequency.

Sixty per cent of all men over 60 have prostatic hypertrophy and 30 per cent of these will need definitive therapy for urinary obstruction. The diagnosis of obstructive benign prostatic hypertrophy is suspected when the symptoms of prostatism occur in a patient over the age of 50. These symptoms normally develop and progress slowly over a period of many months or years. Acute voiding symptoms are seldom due to prostatic hypertrophy alone. The diagnosis from this point on is largely one of elimination of the other causes of prostatism, and specific demonstration of the obstruction either endoscopically or radiographically.

The urine may be clear or infected. A specific gravity over 1.018 may well help clear a question of renal insufficiency on the first examination (remember the patient has voluntarily and almost unknowingly limited fluids sharply prior to coming in as he always does before going "out".)

Discovery of pyuria simply heightens the possibility of obstruction and is not the signal for jubilation and "intensive antibiotic therapy". The rectal examination may or may not reveal a large rubbery prostate. Normal rectal palpatory findings routinely accompany hypertrophy of the middle lobe. This is so because the enlargement is intravesicular and causes obstruction by a ball valve action rather than compression of the urethra from side to side.

A nonenlarged prostate is also found with bladder neck contracture. Rectal examination rules out carcinoma of the prostate, prostatic abscess, semiacute prostatitis and a pathologically relaxed rectal sphincter as in cord bladder. The question of urinary residual has to be solved and may be by urethral catheterization immediately after voiding. This procedure may be on the first visit if the urine is noninfected. I believe that the risk of inducing an acute urinary infection by the careful, nontraumatic passage of a No. 16 French catheter with a coudé curve is minimal. The danger is further reduced by routine administration of Thiosulfil or Gantrisin for forty-eight hours following the catheterization. Easy passage of the catheter rules out urethral stricture which could mimic prostatism. A 3 ounce or larger residual indicates management oriented towards surgical intervention; whereas a residual of less than 3 ounces orients the treatment in the conservative vein.

Bladder Neck Contracture

Bladder neck contracture is the cause of "prostatism without a prostate". There is no way to differentiate the prostatism of contracture from that of hypertrophy by history, except that contracture incidence peaks in a younger age group.

Carcinoma

The differentiation from cancer is by rectal palpation and from middle lobe hypertrophy by endoscopic visualization.

Carcinoma of the prostate is a cause of prostatism and must be ruled out in every case. It is estimated that one out of every five cases with urinary obstruction is due to prostatic carcinoma.

Prostatic malignancy causes symptoms in two different ways. First it causes symptoms by urinary obstruction in the same manner as benign prostatic hypertrophy; secondly, it causes symptoms by metastasis, most frequently to the lumbar spine.

The urinary *obstruction* of prostatic carcinoma causes the set of symptoms in which we are primarily interested. Once again there is little to differentiate obstrution due to carcinoma from that of benign hypertrophy by history alone, unless there are concomitant marked symptoms referrable to metastatic disease. The diagnosis rests on rectal examination. That examination will give positive diagnosis in all but a few prostatic carcinomas large enough to cause urinary obstruction. Fortunately, prostatic carcinoma develops

in the posterior lobe of the prostate and is therefore quite accessible to the examining finger. This is also a "silent" area, however, as far as symptoms are concerned until it announces itself as a far advanced lesion obstructing the urinary flow.

Yearly rectal examination on men over 40 will enable diagnosis to be suspected long before the stage of urinary obstruction is reached, and when there is still chance for cure. As carcinoma of the prostate can develop in an already obstructive benign hypertrophy there is always a possibility of diagnosing an early carcinoma of the prostate even in an individual with advanced prostatism.

The symptom most frequently encountered with metastatic disease is lumbar backache. The lesions are identified radiologically by their osteoblastic activity. An elevated acid phosphatase is found in approximately 85 per cent of metastatic carcinoma of the prostate.

Differential Diagnosis

A discussion of prostatism is usually limited to that disturbance of voiding function caused by prostatic hypertrophy, bladder neck contracture, or carcinoma of the prostate. The differential diagnosis of prostatism is of much larger scope.

Neurogenic bladder has been mentioned earlier and at times is difficult to differentiate from mechanical obstruction. As the rectal and urethral sphincters are innervated at the same cord level, a relaxed rectal sphincter is a frequent accompaniment of neurogenic bladder. A careful neurological examination to detect any other evidence of neurogenic dysfunction, as well as careful endoscopic evaluation of the bladder neck for mechanical obstruction, will enable one to come to a conclusion on the part played by each of these lesions.

Most of the symptoms of prostatism can be mimicked by a prostatitis. A lack of residual urine or endoscopic evidence of obstruction will place these individuals in the nonobstructive group, however. Bladder calculi, obstructive bladder tumors, and urethral stricture are a few of the diagnoses that may be entertained briefly.

Treatment

The treatment of the three pathologic entities outlined above varies from lesion to lesion but most importantly varies with the degree of obstruction. An older individual with benign prostatic hypertrophy of relatively huge extent by rectal palpation, may demonstrate no residual urine or endoscopic evidence of obstruction; therefore, as pointed out before, the rectal examination is of no help in evaluating the degree of obstruction.

Residual urine determinations and duration of severity of prostatism are the two big factors in deciding upon the therapeutic course to follow. Roughly speaking, an individual with three or more ounces of residual urine is much more likely to have increasing prostatism culminating in acute retention, than is the individual with less than 3 ounces residual. Likewise the individual with a long-standing progressive prostatism is much more likely to continue having difficulty regardless of treatment than is the individual with a short history of difficulty.

The presence or absence of associated lesions enters the picture here, to sway one from the medical to the surgical approach or vice versa. The presence of a bladder calculus is indication for surgical intervention in itself and most of us believe that it is an indication of bladder neck or prostatic obstruction which should be taken care of at the same time as the vesicle lithotomy. On the other hand, a marked prostatitis should certainly be cleared before any decision is made as to ultimate disposition of a patient with a low residual and only moderate symptoms.

Conservative treatment of benign prostatic hypertrophy is justified with mild to moderate prostatism only if a residual of less than 3 ounces has been determined and normal renal function established. Again, the individual who "can't stand" prostatic massage is not the individual to withhold surgery from. A high fluid intake, avoidance of urinary irritants, such

as alcohol and highly seasoned foods, weekly prostatic massage with or without antibiotics, depending upon the degree of accompanying prostatic infection, offer a great deal. This program has to be positively orientated, however, for the mental health of the patient. The patient must understand that conservative treatment can be continued only so long as his symptoms improve or at least do not worsen and only so long as urinary infection can be kept under control.

Infection in the presence of obstruction is almost impossible to eradicate, and may be an indication in itself for surgery. Indeed most of the young men requiring bladder neck surgery do not have marked symptoms of prostatism but recurrent infection simply demands that the obstruction be removed. Prostatic infection of course can exist without bladder infection, and a midstream culture will frequently be negative even in those individuals with clumps of pus cells in the first and last portion of their urine. These individuals often profit from prolonged low dosage of sulfa or Mandelamine. I not infrequently give ½ gram tablet of Gantrisin or ¼ gram tablet of Thiosulfil once daily. Mandelamine is usually used in 1 gram dosage per day. Anyone of these medications may be continued over a long period of time with little danger of toxicity. These dosages may be regarded as homeopathic, but I believe that they may be helpful in chronic prostatic infection with or without accompanying hypertrophy. Hot sitz baths and avoidance of constipation are other conservative measures not to be forgotten. Hormones are of no use in managing the obstruction of benign hypertrophy.

Surgical treatment of obstructive BPH is indicated in any individual with demonstrable endoscopic evidence of that obstruction and who does not meet the criteria for medical management. Unless one is willing to submit to a catheter for life, surgery is a must in anyone with a large residual urine, resistant urinary infection, declining renal function, or marked prostatism interfering with the individual's daytime activities and night's rest. In these patients an indwelling catheter until the obstruction is removed frequently gives them their first comfortable night's rest in many months.

The question of surgical risk can be settled simply. Anyone who can walk and care for himself is capable of undergoing a carefully planned and executed prostatectomy. The preoperative work-up includes a chest plate, electrocardiogram, intravenous pyelogram, and blood studies in every case. Recent coronary occlusion contraindicates surgery only for a matter of months postocclusion. Most internists feel that the relief from prostatism afforded by prostatectomy improves the coronary symptoms of a cardiac.

The choice of surgical approach is not of great significance either in surgical risk attached or relief of prostatism afforded. The important factor is in applying the T.U.R. to glands under 50 grams in weight and one of the enucleative approaches to the larger hypertrophies.

Bladder neck contracture is managed both from the medical and surgical standpoints similar to a benign hypertrophy. The only surgical difference is that it is almost always managed transurethrally rather than with open surgery.

Carcinoma of the prostate is an adenocarcinoma which is hormone dependent. Estrogen administration and or orchiectomy is indicated in every case. Here again the indications for surgery are similar to those of benign hypertrophy. Transurethral resection is the approach of choice, unless the lesion is an early one and an attempt at cure is made by perineal extirpation.

No matter what the choice of therapy, I would like to urge that it be suited to the pathology, and carried out with a determination that will convince the most ornery of patients that something is being done to help make his golden years a little brighter.

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Historical Notes

Influence of Mind on Disease. (Address delivered before the Medical Society of the County of Columbia) by Joseph Bates, M. D. Trans. Med. Soc. State of New York, Vol. 7, Part 2.

****Fear has such an influence upon physical organization and produces such very variable symptoms that volumes might be filled with its details. ****Fear has been known to affect the bowels like an over-dose of cathartic medicine. Abortions innumerable have followed in its train of consequences. Mental emotions are regarded by many as having an influence upon the foetus, during uterogestation, and to be the fruitful source of all the malformations.

****Many nervous diseases are caused by the influence of moral emotions. Epilepsy has resulted from sudden fright; and it has been suspended, and even cured by the same emotion. A gentleman travelling in Europe discovered a man sitting in a state of most woful despair, and apparently near the last agonies, by the side of one of the mountain lakes of Switzerland. With great anxiety, he inquired the cause of his suffering. "O!" said the man, "I was very hot and thirsty, and took a large draught of the clear water of the lake, and then sat down on this stone and consulted my guide book—(this guide book was written in French of which language he was ignorant) "To my astonishment" said he, "I found there that the water of the lake is very poisonous! O! I am a gone man—I feel it running all over me! I have only a few minutes to live." "Let me see the guide book," said the gentleman. Turning to the passage, he found: "*L'eau du lac est bien poissoneuse.*"—the waters of the lake abound in fish. "Is that the meaning of it?" "Certainly." "I never was better," said the dying man, and immediately leaping up, his imaginary pain left him.

New Orleans M. & S. J. 5:111 (July) 1848.

Lung Biopsy for Obscure Pulmonary Lesions*

• Thoracotomy with lung biopsy, performed on five patients, revealed diverse pathologic processes. The value of the procedure as a diagnostic aid is cited by the author.

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SURGICAL exploration of the chest to discover what is awry in a patient appears to many physicians an unjustifiably radical procedure. The risk of thoracotomy should be discounted when weighed against the rewards of correcting a lesion which if left unremedied may lead to prolonged ill health or death.

The diagnosis of most pulmonary lesions can be assumed on clinical data. Shadows on the roentgenograms, while usually typical of disease, overlap in their identities to the point that other aids must be used.

Many diagnostic approaches to the individual patient are suggested from the initial work-up and clinical course. In an individual patient a mediastinal shadow or numerous rounded densities in both lung fields may call for a radioactive iodine uptake study to determine if a mediastinal goiter or metastatic thyroid carcinoma is present. In another, diffuse perihilar shadows may require catheterization of the heart to ascertain a possible cardiac origin.

The final diagnosis with few exceptions must rest on histopathologic and biologic differentiation. If an exhaustive survey has failed to yield the underlying pathologic process, thoracotomy should be undertaken.

The material presented is from the files of Charity Hospital and Flint-Goodridge Hospital of New Orleans, Louisiana.

Lung Biopsy

Representative tissue may be removed from the lungs and pleura by surgical means with minimal discomfort and morbidity. The operation (Fig. 1) is performed under local, or preferably, general anesthesia, utilizing positive pressure; and through a small intercostal incision, with little spread of the ribs, a 3 by 3 cm. wedge of lung can be excised and the cut surface sutured. If air leakage or bloody ooze necessitates, an intercostal catheter may be placed in an adjacent interspace for drainage.

Illustrative Case Reports

Case No. 1. This 34 year old Negro man was admitted to the hospital February, 1959. He had noted the sudden onset of dyspnea, and cough, productive of blood streaked sputum four weeks previously. Roentgenograms of the chest showed diffuse haziness and peribronchial infiltrate in both lower lung fields (Fig. 2). Pulmonary function tests were within normal limits except for a lowered Maximal Breathing Capacity. Pulmonary biopsy demonstrated interstitial thickening of the alveolar septum and pulmonary fibrosis.

Scar tissue formed in the lungs is designated as pulmonary fibrosis. For purposes of classification, four pathophysiologic groups can be delineated: [2]

1. Parenchymal scarring is scattered in distribution and zones of relatively normal lung intervene. The main causes are pyogenic, tuberculous, and mycotic infections, silicosis and sarcoidosis.
2. Tracheobronchial lesions produce distal atelectasis or emphysema. The

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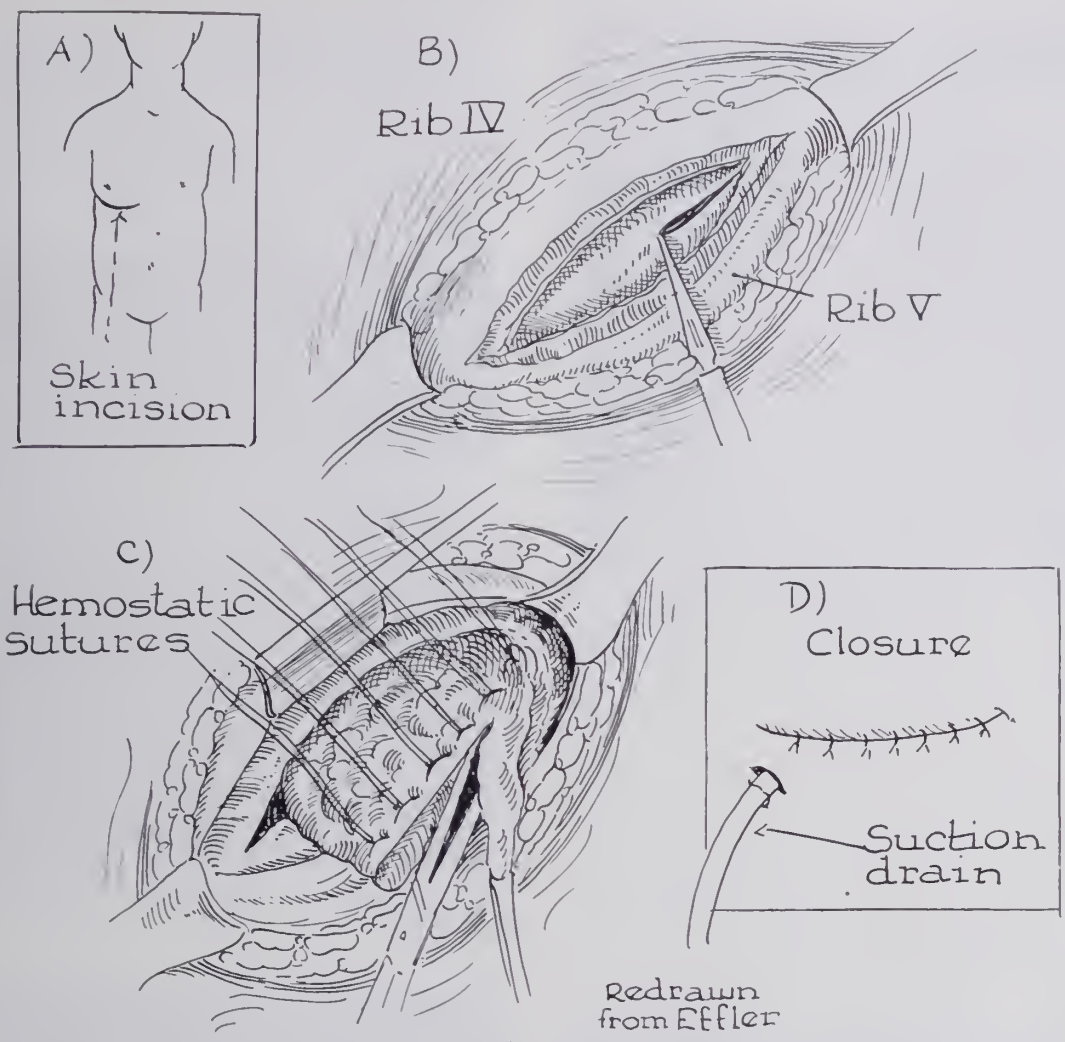


Figure 1.—Lung biopsy. Patient is placed in a prone position. Under local or general anesthesia, a small incision is made between two ribs, a 3 x 3 cm. wedge of lung excised, the lung is sewed over with a continuous catgut stitch, and the wound closed. Drainage of the thoracic cavity is optional.

main causes are chronic bronchitis, bronchiectasis and some pneumoconioses.

3. Interstitial fibrosis involves the alveolar walls. Oxygen diffusion is impeded at the alveolocapillary barrier.
4. Vascular fibrosis results from emboli, thrombi, and many of the collagen diseases. Right sided cardiac failure may intervene.

While it has been established that this man has pulmonary fibrosis, the causative agent has not been identified. Silicosis would strongly be suspected from the prolonged exposure to brick dust.

Case No. 2. This 55 year old Negro woman was admitted to the hospital April 29, 1957. Two weeks before she developed hemoptysis. Three months previously she had begun to have pain in the lumbar region. Since the onset of the low back pain, she had lost 30 pounds in weight. Roentgenograms of the chest in January, 1957, had been reported as normal. On physical examination the uterus was enlarged. A diagnosis of uterine leiomyomata was made. On this admission roentgenologic study of the chest disclosed nodular infiltration throughout both lung fields with apparent rib involvement. Biopsies of the rib and lung revealed metastatic anaplastic sarcoma probably leiomyosarcoma. At necropsy on July 3, 1957, the primary leiomyosarcoma was found in the uterus.

Diffuse pulmonary infiltration resulting from widespread malignancy may

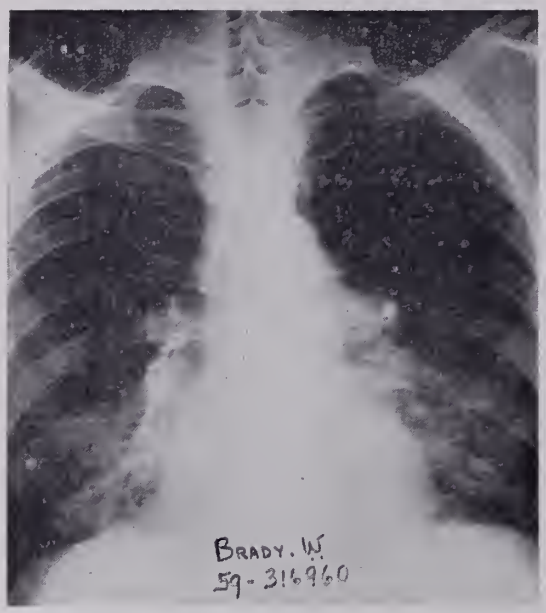


Figure 2.—Roentgenogram of the chest on Case No. 1 shows diffuse haziness and peribronchial infiltrate, more marked in the lower lung fields.

give rise to the "alveolar-capillary block syndrome." [1]

In addition to this cause, it is a common feature of Boeck's sarcoid, berylliosis, scleroderma of the lungs, acute miliary tuberculosis, mitral stenosis, and many other pulmonary lesions.

The syndrome is characterized by reduction in diffusing capacity of the lungs, a block being present at the alveolar-capillary interface. To get from the alveolus into the hemoglobin, oxygen must pass several fluid and tissue barriers. The components comprise the alveolar-capillary membrane.

The term implies involvement of the septum by some process, neoplastic, inflammatory or granulomatous. This usually holds true and decrease in diffusing capacity can be attributed to the membrane. In histologic sections from the lung of Case No. 2, pleomorphic tumor cells thicken the walls and despite invasion of the alveoli in areas, the alveolar walls remain intact.

Case No. 3. A 30 year old Negro man noted an acute onset of cough, hemoptysis, dyspnea, chills and fever April, 1957. He had been spraying trees with an insecticide, chlordane. He improved in about a week and returned to work.

He did no further spraying until April, 1958, at which time he again used chlordane. In about three days he developed severe pain in the chest, cough, and hemoptysis. Roentgenologic study June, 1958, showed a diffuse interstitial inferior bronchial infiltration associated with haziness (Fig. 3a). A lung biopsy on November 7, 1958, disclosed pulmonary alveolar proteinosis (Fig.



Figure 3a.—Alveolar proteinosis. Film taken in June, 1958, on Case No. 3 shows cottony and feathery densities apparently concentrated about the hilum.



Figure 3b.—Film taken in February, 1959, on Case No. 3 shows considerable resolution. Certain zones of increased density suggest possible persistence in a fibrotic state.

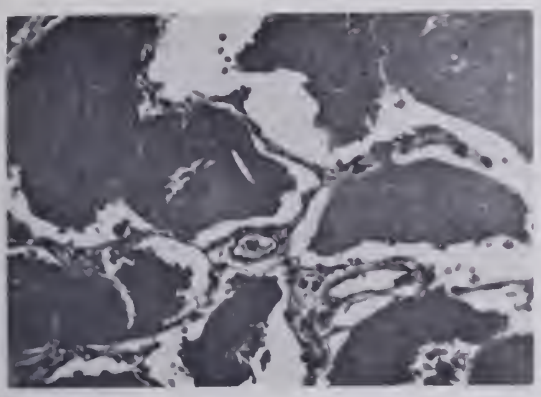


Figure 4a.—Alveolar proteinosis. Hematoxylin and eosin preparation in Case No. 3. The material appears more homogeneous than with PAS stain. Alveoli are thin. The mucosa is intact and proteinaceous material fills the lumen.

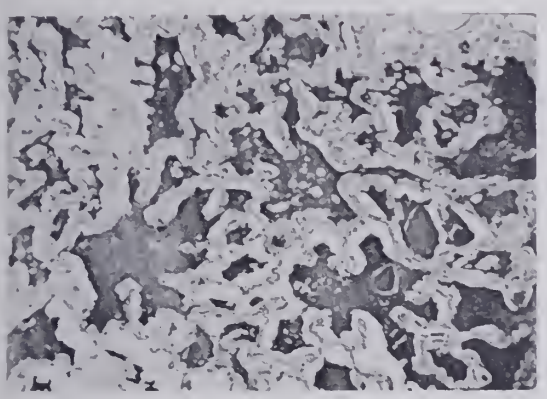


Figure 4b.—PAS positive material in Case No. 3. The alveolar walls are thin. Acicular spaces and rounded masses represent remnants of cells.

4a, 4b). On Meticorten and with no further chlordane exposure he has improved clinically and the roentgenograms of the chest are clearing (Fig. 3b).

A new pathologic entity, pulmonary alveolar proteinosis, has been recently described.[3] The alveoli are filled with a PAS-positive proteinaceous material, rich in lipid. This material is most likely produced by the lining cells which slough into the lumen, ultimately becoming necrotic and yielding granules and variable laminated bodies to the alveolar content. The condition bears resemblance to interstitial plasma cellular pneumonia due to pneumocystis carinii.

The provocative agent, although a matter of conjecture, is probably inhaled. Many patients have had an occupational exposure to chemical inhalants as was true in this case.

In the reported cases death may result from progressive filling of the alveoli or superimposed fungal or bacterial infection, which may be abetted by prolonged use of antibiotics and adrenocorticoids.

Case No. 4. This 57 year old Negro woman was admitted to the hospital May, 1957. Symptoms of pain in the chest, nonproductive cough, and fever had come on suddenly in March, 1957, and some improvement was attributed to penicillin. However, an associated dyspnea became progressively worse. She had kept a parakeet in the house for the past six months. She had been in California for a short time several years before.

Bilateral fibrotic strands radiating from either hilum suggestive of bronchiectatic changes were present on roentgenograms of the chest (Fig. 5).

Pulmonary function tests revealed severe restrictive ventilatory dysfunction with significant resting hyperventilation. On May 30, a titer for psittacosis was 4 plus on 1/16 dilution, 2 plus on 1/32, and doubtful on 1/64. On June 6, titer was 1 plus on 1/16, 0 in successive dilutions. A lung biopsy disclosed pronounced interstitial fibrosis with moderate chronic cellular reaction. In April, 1959, she had been on Meticorten for two years, was still markedly dyspneic and results of pulmonary function tests were the same as in 1957.

No clear cut diagnosis has been achieved since she has been under observation. Contact with a parakeet and the changes



Figure 5.—Radiograph on Case No. 4 demonstrates diffuse mottling in the lower halves of both lung fields. The microscopic diagnosis is interstitial fibrosis. Psittacosis is suspected.

in titer, although titer was not ascending, suggest the diagnosis of psittacosis. No inclusion bodies were seen on histologic section of the lung.

Psittacosis, "parrot fever," is a specific disease, caused by a comparatively large viral agent, an intermediate size between the small viruses and Rickettsias. It is primarily an infection of birds. The pathology is the same as that of primary atypical pneumonia, intense bronchitis with ulceration of mucosa and irregular patchy pneumonia with an exudate of mononuclear cells. The distinguishing characteristic is inclusion bodies within these large mononuclear cells.

The laboratory diagnosis is made by inoculating sputum or blood intraperitoneally into mice. Changes in titer of complement fixing antibodies in blood may be demonstrated. Antibodies in low titer may be present in many persons who have no active disease.

Penicillin is a specific therapeutic aid.

Case No. 5. This 52 year old white man was admitted to the hospital January, 1958, with a complaint of progressive dyspnea for five years. From 1937 until 1941, he had been a sugar cane farmer. From 1941 until 1945, he had worked in a "pre-fab" shop where it was very dusty. From 1945 until 1947, he had been a carpenter on a boat where he was exposed to much glass wool.



6.—Radiograph on Case No. 5 shows a diffuse peribronchial infiltrate. The microscopic sections disclose extensive fibrosis and inflammatory infiltration. Aspergillus species has been grown on culture.

A diffuse bilateral peribronchial infiltrate was seen on roentgenograms of the chest (Fig. 6). Pulmonary function tests gave evidence of a moderate restrictive ventilatory dysfunction. On arterial oxygen determinations hypoxia was present at rest. No shunt could be demonstrated on cardiac catheterization.

The lurg biopsy disclosed extensive fibrosis, bronchiectasis and marked inflammatory infiltration. Aspergillus species was grown from the lung biopsy specimen when it was cultured on Saboraud media. No other organisms were recovered. He died in May, 1958.

Fungi of the genus Aspergillus are among the most frequent and troublesome contaminants in the laboratory. In addition to the saprophytic series, many diseases of both plants and animals are associated with a pathogenic species of this fungus. Massive exposure may be responsible for some disease in man.

Aspergillus fumigatus can be isolated frequently as a contaminant from sputum of patients with many pulmonary diseases of known etiology, as for example, carcinoma. Thus under clinical conditions diagnosis cannot be established. No reliable skin or serologic tests are available. Cultures are of some help. Severe destructive aspergillosis has been found at necropsy.

Iodides are of some therapeutic help. Localized pulmonary disease may benefit from surgical removal.

Summary

Lung biopsy is a dependable diagnostic aid. Two indications for biopsy exist: to verify diagnosis and to establish medicolegal documentation in occupational disease.

Operation can be accomplished under local or general anesthesia through a small anterior chest incision with little morbidity and a short stay in the hospital.

Several cases who have had lung biopsy are herein reported, along with their roentgenograms, and in one, photomicrographs. Alveolar proteinosis, pulmonary fibrosis and alveolocapillary block are briefly discussed. Metastatic malignancy, psittacosis and aspergillosis also are men-

tioned. The wide variety of pathologic processes encountered in the lung are verifiable only by histopathologic and biologic differentiation and biopsy of the lung may be necessary to uncover the cause. Treatment without a diagnosis is oftentimes ineffective and may on occasion be dangerous.

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Historical Notes

With this number, we enter upon the Fifth Volume of the New Orleans Medical and Surgical Journal. Four years' experience have convinced us that the profession in the South and South-West is fully able to sustain a journal of practical medicine; and we avail ourselves of this opportunity to return our grateful acknowledgments to those who have aided us in this new (and now no longer doubtful) enterprise.

We have been anxious to make this a practical Journal; we shall still aim to give it that character, and from the spirit of the communications which have come to hand, we believe the profession will second our efforts. The age demands everything that is practical; nothing theoretical or hypothetical, save it be to give point to fact, will pass as current coin in any of the professions or departments of life, whether civil or political.

This tendency of the age—this proclivity of the human mind, is destined to revolutionize the scientific, as it has already shaken the political world. Be it accomplished.—Observation and the careful collection of facts, followed by a rigid analysis of the same, must supersede the idle and often unfruitful speculations of a superficial philosophy.

New Orleans M. & S. J. 5:129 (July) 1848.

General Practitioners and the Treatment of Depressive Reactions*

• The author discusses the important vegetative and psychic manifestations to be looked for by the nonpsychiatric physician in diagnosing a depression, and outlines the possible treatment to be administered in these minor depressions, with a warning in regard to the necessity of referral to a psychiatrist in more severe depressions.

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GREATER interest among nonpsychiatric physicians, together with increased awareness of the prevalence of emotional disorders, has led to greater activity and knowledge among these physicians in the understanding and treatment of emotional disorders. All symptoms have some emotional factors, and many internists have reported that as much as 50 to 70 per cent of the complaints presented to them have emotional complications as a major factor. It is significant to realize that a constantly enlarging percentage of physicians are seeking personal psychoanalysis not only as an aid in handling their own problems but as an instrument in better understanding patients' conditions.

Statistics regarding mental illness are striking.[1] Over one million, two hundred thousand patients are treated annually in mental hospitals. More than half of the hospital beds in this country are occupied by patients with psychiatric illnesses. Over one million, five hundred thousand adults and children visit psychiatric outpatient clinics and private psychiatrists. Add to this the large number securing help from physicians other than psychiatrists, and the total becomes a major figure. A fair estimate is that about one out of every ten persons has some form of mental or emotional disorder requiring treatment.

The unfortunate component of stigma is gradually being reduced, and this aids many people in facing mental illness and doing something about it. Many misconceptions remain regarding mental illness. For example, it has been thought that individuals of superior intelligence do not become mentally ill. On the contrary, there are certain severe mental illnesses to which the individual with superior intelligence is especially vulnerable. There are misconceptions regarding treatment of mental illness infringing upon the role of the clergy. Enlightened clergymen have done much to debunk this misconception. Religion is not a substitute for the treatment of mental illness although it may be a valuable adjunct; psychotherapy is not a substitute for religion.

Fortunately, many misconceptions regarding the hopelessness of mental illness have been overcome. This is largely attributable to newspapers and magazines glamorizing new techniques and medications. However, this has also brought the unfortunate consequences of magic panacea concepts and the exaggeration of the probability of "cures." There are numerous other misconceptions, and interested physicians would do well to consult Levine's "Psychotherapy in Medical Practice" [2] in this regard.

This paper concerns the treatment of depressed patients not so much by more specialized psychiatric techniques, but by techniques available to physicians other

* Presented at the Seventy-ninth Annual Meeting of the Louisiana State Medical Society, New Orleans, May 6, 1959.

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than psychiatrists. Any physician should be able to recognize the psychotic depressions. Many of us have problems in appreciating nonpsychotic depressions. Feelings of depression and anxiety are not only the most frequent complaints presented to the psychiatrist in private practice, but are probably the most frequent emotional symptoms presented to nonpsychiatric physicians. Depressed feelings are something that all of us have encountered many times within ourselves; it is the emotional symptom that our close friends most frequently will privately confide to us at social functions. It has been estimated that 75 per cent of depressives are seen and treated by nonpsychiatric physicians, and that only 25 per cent reach the psychiatrist.[3] Even with the latter, the major portion have first seen a referring physician.

Diagnosis

The treatment of any medical condition should stem first from the recognition of the condition with which one is dealing. Awareness of the current therapy and prognosis of the condition is basic. Physicians would do well to develop more acumen in the diagnosis of depressions. Too many depressions are masked. Diagnosis of a depression can be divided into two major groups: First, the biologic (or vegetative or somatic) manifestations and second, the psychic. It is surprising how often the physician fails to question the patient regarding vegetative symptomatology. These are probably the most reliable indicators of the depth of a depression. In any mild to moderate depression, some of these symptoms will be present. They are:

1. Anorexia.
2. Weight loss.
3. Insomnia.
4. Decreased or absent sexual desire.
5. Constipation.
6. Amenorrhea or oligomenorrhea.

When the physician encounters a significant number of these vegetative findings he should become aware of the depth of the depression, aware of the suicide potential and consider the patient significantly ill. The earliest and most frequent of the symptoms are insomnia, anorexia and decreased sexual desire. The insomnia is frequently expressed as early morning awakening with the inability to go back to sleep. The decreased sexual desire often carries with it systems of rationalization. Constipation, amenorrhea and oligomenorrhea appear in the literature more frequently than my clinical practice has shown. Before one lends weight to the symptom of constipation, he would do well to confirm that the constipation was not present before the depression ensued. Constipation and menstrual dysfunction seem to be related to the more severe types of depression—the ones with deeper psychopathology. Amenorrhea often provides a complication in that the patient may think she is pregnant and have the emotional reactions secondary to her feelings about pregnancy.

Sometimes a physician has been told by the family that the patient is severely depressed, cries considerably, has introverted, etc. The patient may deny this; he may "cover up" psychic manifestations. Questioning about vegetative symptomatology can become a valuable tool because patients usually do not relate this to mental illness. Sometimes the patient may be a severe, lifelong neurotic who has always embroidered his complaints. Here, lack of vegetative symptomatology may serve as a criteria in evaluating the degree of the claimed depression.

In listing psychic manifestations, a most important one is the estimate of what the physician sees in the patient, the so-called mood or affect of the patient. Evaluation of the depth of a depression is an area that reminds one that medicine remains an art rather than a science. The ability to evaluate the depth depends upon the clinical experience and judgment of the physician. There are other diagnostic adjuncts physicians may use, among which are slow movement, restlessness, facial expression and bodily posture.

Another psychic symptom is suicidal ideation. This must always be considered

in any depression. It is too frequently not considered. Some have the misconception that to question the patient about suicide might put the idea in the patient's mind. Nothing could be more incorrect. It will not strengthen the concept of suicide. It may aid the patient to talk about it and might give him a better appreciation that the physician can understand what he is going through and that he can be helped.

Expressions of hopelessness regarding the condition together with feelings of worthlessness, inadequacy, and loneliness are frequently present. In the more severe depressions, no amount of reassurance from physicians and friends can overcome these feelings. Frequently, the patient will project all of his depressed feelings on having made a poor financial deal—"of having been taken." Still another frequent symptom is introversion.

Expressions of guilt deserve special emphasis. Guilt is often related to hostile feelings that the patient has toward others. Many times these hostile feelings are unconscious and are introjected (turned against the patient himself).

There are other psychic manifestations such as delusions about body organs and feelings of unreality, but these and others really fall into the category of psychotic depressions and will not be discussed in this paper.

What else should the physician keep in mind regarding diagnosis of depression? Certainly here, as in other fields of medicine, the patient's previous history is of cardinal importance. Has the patient ever had a depression before or has he ever attempted suicide? What is the basic personality or neurotic diathesis of the individual? Is he hypersensitive, too introspective or, introverted? All of these are of importance. One finding typical of many depressions is that depressives usually feel worse in the morning. Many explanations have been provided; possibly one of the most accepted is the concept that life is so unpleasant for the patient that when he awakens in the morning, he dreads the prospect of facing the entire day. The frequency of depressions in serious physical disease, chronic disease or severe pain must be appreciated. Suicide remains a danger in these conditions. Such patients will frequently state in a seemingly intelligent manner that they have balanced the scales of their potential unhappiness against their potential happiness in the remainder of their life, and the results do not appear pleasant.

Misconceptions regarding potentiality of suicide are prominent. These include the misconception that religious beliefs are an effective check against suicide. Of the three major religious faiths in this country, the one that most clearly spells out suicide as being a moral sin is the Catholic faith. It is interesting in this regard that the lowest rate of suicides is not among the Catholics but among Jews.[4] There have been priests, ministers and rabbis that have committed suicide. Other misconceptions concern the ideas that those who talk about suicide never do it, and that children or mental defectives will not commit suicide.

Treatment

If, after studying his patient, the nonpsychiatric physician believes that the depression is not a severe one and that none of the danger signs regarding suicide or severe psychopathology are present and if he feels comfortable and willing to treat the patient superficially, he is often in a better position to aid the patient than would be a new figure, the psychiatrist. If the nonpsychiatric physician is at all uncertain about the suicide risk or potential for severe mental illness, he should arrange for psychiatric consultation. Occasionally, when the psychiatrist sees a patient in a mild depression he can recognize that the referring physician is able to handle the problem and possibly will be better accepted by the patient. Then the psychiatrist can make suggestions to the other physician. Unfortunately, too many physicians are threatened by the idea of dealing with any mental illness or else have no inclination to spend the extra time necessary. It is also true that when

certain types of personal problems are involved, the patient may be unwilling to discuss them with his family physician.

Numerous articles have been written regarding psychotherapeutic techniques suitable for the nonpsychiatric physician. The important factor in any good psychotherapy is being a good listener. The patient too frequently has had no one to whom he could communicate. Simple suggestions regarding "restoration of communication lines" may be important. Effective psychotherapy is often brought about when the physician has really said little if anything but has provided an atmosphere of trust. The value of ventilation cannot be overemphasized, but this is especially helpful when this ventilation can be expressed to an individual who has an accepting, nonpunitive, nonjudgmental attitude. The patient may try to categorize the physician as an authoritarian figure. It might become pertinent for the physician to simply state, "This is no church , and I am no clergyman. This is no court, and I am no judge. This is no school, and I am not a teacher. I'm here to help you as a physician."

As has been mentioned, guilt is a frequent symptom in depression. Many individuals have misconceptions that arouse considerable guilt. Many are prone to become upset regarding hostile feelings, status wishes or envy. The importance for the patient of universalization by the physician of such feelings cannot be overemphasized. It is important for the patient to realize that in spite of superficial facades, there is present in all of us a need to be loved, a need to lean on someone and a need to be taken care of in a child-like, protected fashion. Many individuals have harbored within themselves the awareness of some neurotic traits, overemphasizing the significance of these traits and feeling that they are on the verge of a major psychosis—"a nervous breakdown." Here, too, universalization is important. It becomes important for the depressive to learn that all individuals have neurotic traits, and we differ only in the degree by which we manifest these traits. Patients quite often relate events, happenings or thoughts to which they attach much anxiety or guilt in spite of the fact that these traits or happenings may be a general normal development of the personality.

Environmental manipulation is frequently an important part of the psychotherapeutic procedure. The physician is in an excellent position to objectively survey family and home relationships. Also, it may be necessary that he assume responsibility for moves which a patient knows are advisable, but regarding which the patient would have too much guilt were he not supported by some authority —in this instance, the physician.

In addition to providing the patient with a healthy figure to whom he can ventilate, the physician may prescribe medications. The physical condition of the patient must be given careful attention, and the medications required to rectify any physical condition should be carefully considered.

Newer psychic drugs have been developed and are being investigated so rapidly that what is written today may be outmoded within six months. Additional side-effects are being discovered, further testing of drugs is being carried out and newer ones are being introduced. Unfortunately, the newer drugs are often accompanied by a salvo of omnipotent claims. Misconceptions regarding the efficacy have been promulgated to the public.

One of the better antidepressant drugs at this time appears to be Marsilid.* Besides stimulating the patient, it frequently improves the appetite, and this is quite encouraging to the patient. Unfortunately, the efficacy of Marsilid usually is not apparent until the drug has been given for several weeks. Because of the danger of certain side-effects it should not be given in dosages of over 50 milligrams daily, and the dosage should be reduced when the patient starts exhibiting improvement. The amphetamines remain a

* Iproniazid. (Roche Laboratories).

helpful tool in many minor depressions. Although they frequently stimulate the individual and give him a sense of well-being, the appetite depressant effect is a handicap to the depressive. There are other stimulating drugs which the physician may consider. Many tranquilizers lay claim to helping depressives. Some of them apparently do in a few cases; depressives are helped by the reduction of tension. The phenobarbitals have always been indicted as a contraindication in depressives; it is best to avoid them, although they may be given in small dosages.

The sleep pattern is of major importance to the depressive. Lethargy and fatigue are depressing in themselves. Physicians should not hesitate to give the patient aids for sleeping, but should be careful that the patient is not too heavily sedated—or if a suicidal potential is present, the prescription should not contain sufficient medication to allow a successful suicide. The shorter acting barbiturates as well as some of the newer nonbarbiturate sedative-hypnotics have a place regarding insomnia in treating depressive reactions.

If the depression persists or the patient manifests any danger signs, referral to a psychiatrist should be carried out. The psychiatrist may, by virtue of his specialized training and experience in psychotherapy, be able to cure the depression. Psychotherapy remains the treatment of choice when possible for depressions. It attempts to rectify the cause in addition to helping the symptom. Electroshock therapy remains an excellent tool for the treatment of depressions that are dangerous or resistant to psychotherapy. Frequently, when the patient recovers from a depressive reaction with the aid of electroshock therapy, he is more amenable to psychotherapy and to the understanding of the basic causes of his illness.

Conclusion

Increased awareness of the prevalence of mental illness has brought with it increased interest and activity in the realm of mental illness among nonpsychiatric physicians. The nonpsychiatric physician must remain aware of the importance of his role in the treatment of depressions both as a possible therapist or in the manner of referral. Evaluation of vegetative symptomatology as well as the psychic symptomatology is of cardinal importance. The minor depressions can often be competently handled by the nonpsychiatric physician, but the danger of overlooking more severe depressions must be kept in mind. Some physicians have innate ability regarding psychotherapy; unfortunately others adopt too much omniscience or omnipotence when they do psychotherapy.

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The Lumbar Spine in the Workman

• Preplacement evaluation of the functional ability of the workman's low back, and of the mental, physiological, and structural stresses that the employee will be subjected to, saves money and time in work loss, and is of value both to the employer and the employee.

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THERE is no single condition in which labor is involved that causes more loss of man-hours than low back symptoms.[1] The purpose of this paper is to demonstrate the necessity for proper preplacement examinations to reduce the number of so-called "industrial backs."

The complete evaluation of the functional ability of the workman's low back must be the result of a combined effort. This complete study not only consists of clinical, physical, and radiological findings but also an intimate knowledge of the work load that the potential employeee's back will be exposed to. The examining team must look upon this examination as a preplacement rather than a pre-employment examination. The employer as well as the employees look to the examiner for counseling in selecting the right man for the specific job.

Method of Study

The workmen chosen for this study fall into two groups. The first group is a five year selected control group of employees who were subjected to complete preplacement examinations including pre-employment x-ray studies of the lumbar spine from the years 1953 through 1958. This control group of preplacement examinations consists of 1927 cases examined. The average age for this group was 29.2 years. During this same five year period of time only 7 workmen suffered nontraumatic back injuries.

The second group is a nonselected group of nontraumatic back injuries in employees working under the same conditions at the same time.

This latter group did not receive pre-employment lumbar spine x-rays. This nontraumatic injury group consists of 254 men of which 235 were white and 19 were negro. Their age groups at time of injury are presented in Figure 1.

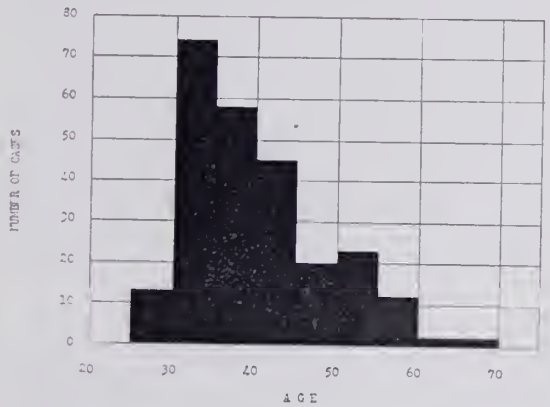


Figure 1. Graph showing ages of workers at onset of non-traumatic back injury.

Traumatic injuries were eliminated from this study.

Nontraumatic injuries consist of muscle or ligament strain and or disc injuries. These injuries were acquired without extrinsic trauma. Most injuries were caused by, or were the result of, lifting or twisting in improper positions or by overloading an "unstable back" that was not fitted for the job.

Preplacement X-Rayed Group

Of the 1927 preplacement examinations 424 (22 per cent) were rejected due to

* Presented at the Seventy-ninth Annual Meeting of the Louisiana State Medical Society, May 5, 1959, in New Orleans.

the x-ray findings (Table 1). This rejection rate may seem high but is in conformity with other large studies.[1, 2] Many

TABLE 1
REJECTS 424 (22%)

Narrow Disc	229
Spondylolisthesis	92
Old Trauma	43
Myelogram	16
Surgery	8
Arthritis, Severe	22
Sacralization with Pseudarthritis	10
Spondylolysis	4

of the men that were rejected have found vocations more suitable to their physical stature.[3] The remaining 1503 workmen were placed in jobs suitable to their knowledge, experience, and physical status varying from minor work load jobs, such as clerical, to major work load jobs, such as riggers and boilermakers. The majority of these men were employed in the major work load group.

Only 7 men of the remaining 1503 preplacement x-rayed group acquired nontraumatic back strain. These injuries resulted in no work loss and no disability except for a 42 year old pipefitter who was disabled for three months without work loss. All of these 7 men had normal lumbar spine x-rays on employment and after injury.

Non-X-Rayed Group

Of an average census of 3,395 workmen not receiving preplacement lumbar spine x-rays, 254 nontraumatic back injuries occurred during the same five year period. This represents a statistical incidence on the average of 1.3 nontraumatic injuries per 100 employed. The average work loss per injury was 17 days per man with 41.37 days disability. Projecting these figures yields a frequency of 127.3 days lost per 100 employees and 306.7 days disability per 100 employees. Considering the average nontraumatic back injury cost the employers $2,000 per case (medical and nonmedical cost total), it is easy to see the importance of careful selection of the job candidate.[4, 5] This cost does not include the salaries of men employed to replace the "loss time" worker and it is impossible to evaluate the financial loss during the disability period after he returns to work

Postinjury x-rays of these 254 men revealed approximately the same number of congenital and degenerative abnormalities as in the control x-ray group. (Table 2)

TABLE 2
THE PREPLACEMENT X-RAY RESULTS
(1927 CASES)

Finding	Number	Percent
Normal Spine	605	31.4
Spondylolisthesis	92	4.7
Spondylolysis	33	1.7
Sacralization	147	7.6
Old Trauma	62	3.2
Myelogram	16	0.8
Surgery	8	0.4
Arthritic Lipping	204	10.6
Mild to Moderate	82	4.3
Severe	22	1.1
Interspace Narrowing		
L5-S1 None	763	39.5
25-50%	700	36.3
50-75%	93	4.7
75-100%	187	9.7
With other causes	184	9.7
Other spaces	42	2.1
Scoliosis	85	4.4
Other Congenital Anomalies	494	25.6

Had these injured employees been screened similarly to the control group, we now know that 56 men (22 per cent) would not have been employed and many of the remaining men would have been placed in different jobs. The 56 men who would have been rejected on the basis of lumbar spine x-rays, accounted for 952 days work loss and 2,317 days disability and approximately $112,000 total cost. This use of the preplacement x-ray examination would have saved the employers and the employees a great deal of grief as well as financial loss—both parties lose in any injury.

The Examination

A complete preplacement examination is not unlike the complete examination of any patient except for the routine utilization of lumbosacral x-rays as an adjunct in evaluating the workman's musculoskeletal functional ability for the specific job. It is imperative that the exam-

ining physician and the radiologist have an intimate knowledge of the work load each employee will be subjected to. For instance, in our opinion it is a perfectly acceptable procedure to employ a man with second degree spondylolisthesis as a draftsman or accountant, whereas it would be utter folly to have the same man employed as a boilermaker or an iron worker or even a T.V. wrestler.

X-Rays

Proper examination of the back by x-ray is as important as any other part of the preplacement examination. Extreme care must be taken in proper centering of the films and positioning of the patient so as not to render misleading information such as false narrowing of the intervertebral spaces, scoliosis, pelvic tilt, etc.[6, 7]

The results of the roentgenographic examination of the lumbosacral spine in the 1927 control cases yielded results similar to other large series.[1, 2, 8] (Table 2) it should be of interest to note that the expected narrowing of the lumbosacral interspace in complete sacralization is not considered abnormal. Approximately 40 per cent of the examinations revealed one or more congenital abnormalities.[9]

In general the 22 per cent of rejections based on the x-ray findings were due to:

1. Degenerative disc narrowing of 75 per cent or more.
2. Spondylolisthesis.
3. Hypertrophic changes greater than 5 mm.
4. Evidence of old trauma, myelogram, or previous surgery.
5. Sacralization only where arthritic changes are present in the false joint.
6. Positive evidence of defect in the isthmus without slipping (spondylolysis).
7. Miscellaneous, such as tumors, etc.

The above rejection rate is less severe [1, 2] when compared to Runge's criteria which, in addition, indicates that any hypertrophic change and all defects involving the lumbosacral joints are rejectable. We feel that the extremely low nontraumatic rate in the control group justifies our more liberal classification.

Comment

Two groups of prospective employees are of unusual interest. Sixty former paratroopers were examined and hired. These men had a total jump rate ranging from 7 to 177 jumps. Fifty-nine men had completely normal lumbar spine x-rays. One paratrooper showed moderate (approximately 50 per cent) narrowing of the lumbosacral interspace which was considered within normal limits.

The second group are classified as "liars". This was represented by a small group of men who denied previous back disabilities, injuries, or surgery, which on x-ray studies showed evidence of old fractures, previous myelograms, and previous surgery. Some of these men were engaged in litigation with other industrial companies at the same time they were presenting themselves for employment examination and still they denied any previous accident, injury, or surgery.

The value of preplacement lumbar spine roentgen examination is well established.[10] The examination cannot be expected to eliminate all complaints of low back pain from the employee population, and cannot be expected to eliminate the future potential disc syndrome. On the other hand, it is not designed to bar a person from employment. The monetary significance of our observations is considerable and the fact that there has been no work loss in the control group is gratifying to the employer, the employees, and the examining team. The value of preplacement examination appeared to be in direct proportion to the thoroughness of the examination, the interest of the examining team, and their knowledge of the job involved.

Summary

1. The preplacement examination including roentgenographic examination of the lumbosacral spine has been shown to greatly reduce the number of nontraumatic back in-

juries, simply by reducing the potential.

2. Complete evaluation of the functional ability of the workman's low back is shown to be of great value both to the employer and to the employee.
3. An overall rejection rate of 22 per cent based on x-ray examinations was established in this study. If the nonselected group had been x-rayed, at least 952 days' work loss, 2,317 days' disability and approximately $112,000 could have been saved.
4. The most careful screening cannot be expected to eliminate potential disc syndromes.
5. The complete evaluation of the prospective employee must take into consideration the mental, physiological, and structural stresses that the employee will be subjected to.

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The Epidemic of 1847

or a Brief Account of the Yellow Fever that Prevailed at New Orleans, etc. Collected and published by E. D. Fenner, M. D. of New Orleans.

Sanatory condition of the City.—The city was, perhaps, never in a more filthy condition than it was throughout this year. Notwithstanding the admonitions of the Board of Health and the remarks on the condition of the streets offered by the editors of this Journal and the newspaper press, from time to time, our city authorities took no precautions against sickness. Even the customary very imperfect measures for cleaning the streets were more neglected than usual. New Orleans is notoriously a dirty place, but in 1847, it may be said to have luxuriated in filth. In the month of April, the river rose very high, and for a week or two poured through the cross streets into the swamp in the rear of the city. At the highest stage of the water, a crevasse occured opposite the city in the little town of Algiers. A vast quantity of water escaped in that direction before the crevasse was repaired. After this, stagnant water remained upon the Bingaman race track until it disappeared by evaporation. Nothing more need be said about the hygienic condition of the city, as it was about as bad as it could be.

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Editorial

Relations of Physicians and Osteopaths

The relations between physicians who are doctors of medicine, and osteopaths, in the last quarter of a century have undergone a series of changes. The matter has become of importance to the state associations and nationally.

The doctrines formerly held by those who practice osteopathy were such that the application of the Principles of Medical Ethics of the American Medical Association excluded voluntary professional association with osteopaths. The Principles of Medical Ethics, since 1847, have in substance expressed the concept that it is unethical for doctors of medicine, members of the American Medical Association, to associate voluntarily professionally with one who in his practice follows a system of healing "based on the authority of its promulgator to the exclusion of demonstration and scientific experience."

Osteopathy was founded in 1894. The doctrines were those of Andrew T. Still, and were put forward in opposition to the standard of medical practice as it existed at that time. These tenets have not been proved by scientific demonstration and experience. Since 1936, a transition period has existed, in which the curricula and training of osteopathic colleges were modeled after those of the medical schools. Teaching institutions were identified as medical schools conducted under osteopathic auspices. The number of osteopaths has increased, and presently, there are in excess of twelve thousand two hundred licensed osteopaths. Nine thousand two hundred and seventy-four of these are licensed to practice or do practice a system of healing without limitation. Osteopaths are not licensed to practice an unrestricted system of healing in Alabama, Arkansas, Georgia, Idaho, Louisiana, Maryland, Minnesota, Mississippi, Montana, North Carolina, North Dakota, and South Carolina. There is no provision in Alaska.

Under federal regulations, osteopaths have almost identical status with doctors of medicine. There are six colleges of osteopathy. The report following inspec-

tion of five of these was presented four years ago, which in effect stated that the teaching in these schools is of a quality and quantity less than what is considered minimal for an approved medical school.

In 1955, the House of Delegates of the American Medical Association rejected a resolution, which would have permitted members of the association to teach in osteopathic schools. The debate which preceded this decision was spirited and the action of the House was materially influenced by the observation that the constitution of the American Osteopathic Association adhered to the tenets of Andrew T. Still and that those who were upholding this doctrine were unquestionably practicing medical cultism.

In July 1958, the American Osteopathic Association changed the "objects" article of its constitution, which now reads:

"The objects of this Association shall be to promote the public health, to incorporate scientific research, and to maintain and improve high standards of medical education in osteopathic colleges."

Following this, in response to resolutions presented from various state societies, the House of Delegates of the American Medical Association, in December 1958, requested the Judicial Council of the American Medical Association to review the past pronouncements of the House of Delegates, and the laws of the several states in regard to osteopathy. The Judicial Council in its report to the House of Delegates, in June 1959, took the position that some osteopaths who adhered to the tenets of the founder were cultists, and that those who were licensed lawfully to practice without limitation and who subscribed to those scientific principles which guide the members of the American Medical Association were not cultists. The report from the Judicial Council recommended that the House acknowledged the propriety of voluntary professional association between doctors of medicine and practitioners of osteopathic medicine in the latter group.

In the hearing before the Reference Committee and in the debate upon the floor of the House of Delegates it became apparent that in those states in which osteopaths are licensed to practice or do practice a system of healing without limitation, and where they are most numerous, many physicians who were doctors of medicine were desirous of promoting voluntary professional association with osteopaths. Correpondingly, in those states in which osteopaths were few in number and were limited in their license, the view was held that such voluntary professional association should not be regarded as ethical. The concept behind the decision seemed to be that such associations would represent a lowering of educational standards which would be undesirable.

In the course of the debate amendments were made, and the following modified report was adopted:

"(A) All voluntary professional associations between doctors of medicine and those who practice a system of healing not based on scientific principles are unethical.

"(B) Enactment of medical practice acts, requiring all who practice as physicians and surgeons to meet the same qualifications, take the same examinations and graduate from schools approved by the same agency should be encouraged by the constituent associations.

"(C) That it shall not be considered contrary to the Principles of Medical Ethics for doctors of medicine to teach students in an osteopathic college which is in the process of being converted into an approved medical school under the supervision of the AMA Council on Medical Education and Hospitals.

"(D) A Liaison Committee be appointed by the Board of Trustees of the American Medical Association to meet with representatives of the American Osteopathic Association, if mutually agreeable, to consider problems of common concern including inter-professional relationships on a national level."

This action by the House of Delegates clarifies the position of organized medicine. At the same time, it would make possible improved teaching in osteopathic schools, and ultimately, and presumably when standards of education are adequate, may lead to some adjustment of the problems of common concern. The House of Delegates of the American Medical Association again took action which supports its own ethical principles and the best interests of American medicine.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

REPORT ON ACTIONS OF THE A.M.A. HOUSE OF DELEGATES

The following is a summary of a few of the many important subjects acted upon by the House of Delegates of the American Medical Association at its 108th annual meeting, June 8-12, 1959, at Atlantic City:

The report of the A.M.A. Commission on Medical Care Plans, relations between medicine and osteopathy, the report of the Committee on Preparation for General Practice and the issue of compulsory Social Security coverage for self-employed physicians were among the major subjects which brought important policy actions by the House of Delegates.

Another highlight of the meeting was the appearance of President Dwight D. Eisenhower, who addressed an over-flow audience of more than 5,000 at the Tuesday night inauguration of Dr. Louis M. Orr of Orlando Florida, as the 113th president of the A.M.A. It marked the first time that a President of the United States has addressed an A.M.A. annual or clinical meeting.

Dr. E. Vincent Askey of Los Angeles, speaker of the House of Delegates since 1955, was named president-elect for the coming year. Dr. Askey will succeed Dr. Orr as president at the association's annual meeting in June, 1960, in Miami Beach.

The 1959 Distinguished Service Award of the American Medical Association was voted to Dr. Michael E. DeBakey of Houston, Texas, chairman of the department of surgery at Baylor University College of Medicine, for his outstanding contributions in the field of cardiovascular surgery. Dr. DeBakey received the award at the Tuesday night inaugural ceremony.

Total registration through Thursday, with half a day of the meeting still remaining, had reached 28,225, including 12,921 physicians.

Eisenhower Address

President Eisenhower, speaking at the inaugural ceremony in the ballroom of Convention Hall, warned that inflation posed the greatest danger to the traditional, free enterprise practice of medicine. The cost of inflation, he said, "is not paid in dollars alone but in increasingly stagnated progress, lost opportunities, and eventually, if unchecked, in lost freedoms for the doctor and the patient." Mr. Eisenhower also expressed gratification at learning of A.M.A. leadership in the program to meet the health care needs of the aged.

Commission on Medical Care Plans

The House of Delegates received Part I of the report on the Commission on Medical Care Plans as information only and then acted upon the Commission recommendations item by item. The House adopted 36 of the recommendations without change, but reworded three which relate to miscellaneous and unclassified plans. The changed recommendations now read as follows:

B-4. "In an effort to decrease, or at least to prevent increase, in the over-all cost of health care, study should be given to the removal of the requirement of hospital admission as the only condition under which payment of certain benefits will be made."

B-6. "Medical care plans should be encouraged to increase their efforts to provide health education and information concerning the coverage of their subscribers."

B-16. "The American Medical Association believes that free choice of physician is the right of every individual and one which he should be free to exercise as he chooses. Each individual should be accorded the privilege to select and change his physician at will or to select his preferred system of medical care and the American Medical Association vigorously supports the

right of the individual to choose between these alternatives."

In connection with free choice of physician, the House also requested the Board of Trustees to transmit to all constituent medical associations the "far-reaching significance" of Recommendation A-7, which says:

"'Free choice of physician' is an important factor in the provision of good medical care. In order that the principle of 'free choice of physician' be maintained and be fully implemented, the medical profession should discharge more vigorously its self-imposed responsibility for assuring the competency of physicians' services and their provision at a cost which people can afford."

The House also strongly endorsed Recommendation B-11, which declares that "Those who receive medical care benefits as a result of collective bargaining should have the widest possible choice from medical care plans for the provision of such care."

Many of the Commission recommendations urged increased activity by state and county medical societies and the American Medical Association in such fields as continuing study and liaison, closer attention to legal and legislative factors, and the development of guides for the relationship between the medical profession and the various types of third parties. To carry out three of the recommendations involving A.M.A. activities, the House also approved a seven-point program which it requested the Board of Trustees to transmit to the Division of Socio-Economic Activities for immediate attention.

Medicine and Osteopathy

In considering a special report of the Judicial Council on the subject of osteopathy, the House adopted the following policy statement regarding interprofessional relations:

"(A) All voluntary professional associations between doctors of medicine and those who practice a system of healing not based on scientific principles are unethical.

"(B) Enactment of medical practice acts requiring all who practice as physicians and surgeons to meet the same qualifications, take the same examinations and graduate from schools approved by the same agency should be encouraged by the constituent associations.

"(C) It shall not be considered contrary to the Principles of Medical Ethics for doctors of medicine to teach students in an osteopathic college which is in the process of being converted into an approved medical school under the supervision of the A.M.A. Council on Medical Education and Hospitals.

"(D) A liaison committee be appointed by the Board of Trustees of the American Medical Association to meet with representatives of the American Osteopathic Association, if mutually agreeable, to consider problems of common concern including inter-professional relationships on a national level."

In another action concerning osteopathy, the House recommended that the American Medical Association representatives on the Joint Commission of Accreditation of Hospitals suggest to the Joint Commission that they inspect upon request and consider for accreditation without prejudice those hospitals required by law to admit osteopathic physicians to their staff.

Preparation for General Practice

The House approved and commended the final report of the Committee on Preparation for General Practice, which proposes a new two-year internship program for medical school graduates planning to become family physicians. To avoid unnecessary confusion, the House deleted only one sentence which read: "Indeed, the committee believes that the one year internship actually encourages inadequate preparation for general practice." The Committee on Preparation for General Practice included representatives from the A.M.A. Council on Medical Education and Hospitals, the American Academy of General Practice and the Association of American Medical Colleges.

The suggested program would include a basic minimum of 18 months hospital training in the diagnostic, therapeutic, psychiatric, preventive and rehabilitative aspects of medicine and pediatrics in a very broad sense, including care of the newborn. A physician then could elect to spend the remaining six months for additional training in other segments of the program. The committee stated, however, that participants who plan to practice obstetrics would be expected to spend at least four months of the elective period in obstetrical training.

The report declared that "the graduate program of two years in preparation for family practice should be planned and implemented as a unified whole" with a maximum continuity of assignment in specific services. The program also calls for adequate experience in outpatient care and emergency room service.

Social Security

In considering five resolutions on the subject of compulsory Social Security coverage for self-employed physicians, the House disapproved of four and adopted one reaffirming its opposition to the compulsory inclusion of physicians. In so doing, the delegates expressed concern over the possible effects that a change of policy might have on the Association's entire legislative program, particularly with respect to the Forand Bill.

The House also recognized "the apparent growing demand by physicians for economic se-

curity" and requested the Board of Trustees to investigate the possibilities of developing group insurance and retirement plans which could be made available to Association members. It accepted a reference committee suggestion "that the American Medical Association continue and expand its educational program to inform its members of the economic, social and moral advantages of economic security obtained within the framework of our free enterprise system rather than through the mechanisms of governmental Social Security."

Miscellaneous Actions

In dealing with a wide variety of other subjects, the House also: Urged all physicians to participate more fully in community activities and **socio-economic matters** in their own communities but agreed that no change should be made at this time in Article II of the Constitution, which states Association objectives;

Approved in principle the aims and objectives of the President's Council on **Youth Fitness** and the Citizens Advisory Committee on the Fitness of American Youth;

Accepted a Board of Trustees recommendation that the **1962 Annual Meeting** be held in Chicago;

Expressed heartfelt thanks to the Committee on **Amphetamines** and Athletes, which has completed its assignment;

Requested the Board of Trustees to study the problems and possibilities of establishing an A.M.A.—sponsored **medical scholarship** and/or loan program;

Approved the inclusion of Today's Health as a benefit of dues-paying membership and urged members to make it available to their patients;

Recommended that state medical societies, where advisable, initiate legislative efforts to eliminate **cancer quackery;**

Received a progress report indicating "phenomenal progress" in the field of health insurance coverage for **the aged** since the Minneapolis meeting last December;

Gave a rising vote of thanks to **Dr. Joseph D. McCarthy,** who finished his term as chairman of the Council on Medical Service;

Reaffirmed its full support of the Educational Council for **Foreign Medical Graduates;**

Endorsed the purposes outlined in the initial report of the **Medical Disciplinary Committee;**

Urged every A.M.A. member to give a substantial gift to the **medical schools** through the American Medical Education Foundation; and

Expressed appreciation for the outstanding **disaster medicine** program presented by the United States Army Medical Service on June 6, 1959, in Atlantic City.

Opening Session

At the Monday opening session Dr. Gunnar Gundersen of La Crosse, Wis., retiring A.M.A. president, stressed the personal responsibility of every physician to keep abreast of medical advancements and to deliver "1959 medicine." Dr. Orr, then president-elect, called for concerted effort and medical leadership in four areas—the costs of medical care, recruitment of dedicated medical students, basic research and health care of the aged. Dr. Carl V. Moore, Busch professor of medicine at Washington University, St. Louis, was presented with the eighth Goldberger Award in clinical nutrition. Smith, Kline and French Laboratories of Philadelphia received a special A.M.A. award for its sponsorship of color medical television over the past ten years.

Inaugural Ceremony

Dr. Orr, in his Tuesday night inaugural address, affirmed his belief in the basic principles of medicine, democracy and faith under which America's physicians live. He pointed out that freedom must be continually fought for by men and women who are willing to stand up and be counted. Dr. Leonard Larson of Bismarck, N. D., A.M.A. Board Chairman, administered the oath of office to Dr. Orr, and the latter presented the Distinguished Service Award to Dr. DeBakey. The Fort Dix Band Chorus presented the musical program.

Election of Officers

In addition to Dr. Askey, the new president-elect, the following officers were selected at the Thursday session;

Vice president, Dr. James Stanley Kenney of New York City; speaker of the House of Delegates, Dr. Norman A. Welch of Boston, and vice speaker, Dr. Milford O. Rouse of Dallas, Tex.

Dr. R. B. Robins of Camden, Ark., and Dr. Hugh H. Hussey Jr. of Washington, D. C., were re-elected for five year terms on the Board of Trustees. Also elected to the Board, for the first time, was Dr. Percy E. Hopkins of Chicago.

Dr. J. M. Hutcheson of Richmond, Va., was re-elected to the Judicial Council. Re-elected to the Council on Medical Education and Hospitals were Dr. Charles T. Stone, Sr. of Galveston, Tex., and Dr. W. Andrew Bunten of Cheyenne, Wyo.

Dr. Willard Wright of Williston, N. D., was elected, and Dr. J. Lafe Ludwig of Los Angeles was re-elected to the Council on Medical Service. Dr. William Hyland of Grand Rapids, Mich., was re-elected to the Council on Constitution and Bylaws.

F. J. L. Blasingame, M. D.
Executive Vice President
American Medical Association

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

NEW OFFICERS — THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

The twenty-third annual meeting of The New Orleans Graduate Medical Assembly will be held March 7-10, 1960, headquarters at The Roosevelt Hotel.

The following officers and members of the Executive Committee have been elected for this year:

Dr. Ambrose H. Storck, President
Dr. M. E. St. Martin, President-elect
Dr. Barrett Kennedy, First Vice-president
Dr. Ralph M. Hartwell, Second Vice-president
Dr. Warren H. Hebert, Third Vice-president
Dr. Mannie D. Paine, Jr., Secretary
Dr. Boni J. DeLaureal, Treasurer
Dr. H. Reichard Kahle, Director of Program
Dr. W. E. Kittredge, Assistant Director of Program
Dr. Joseph W. Wells, Assistant Director of Program

Members of the Executive Committee include Doctors J. O. Weilbaecher, Jr. (retiring President), J. Theo Brierre, Max M. Hattaway, Lee D. McLean, and John G. Menville.

UROLOGY AWARD

The American Urological Association offers an annual award of $1000 (first prize of $500, second prize $300 and third prize $200) for essays on the result of some clinical or laboratory research in Urology. Competition is limited to Urologists who have been graduated not more than ten years, and to hospital internes and residents doing research work in Urology.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Palmer House, Chicago, Illinois, May 16-19, 1960.

For full particulars write the Executive Secretary, William P. Didusch, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before December 1, 1959.

DOCTORS REPORT ON NEW SAFE METHOD TO REMOVE DANGEROUS EAR WAX

Impacted ear wax which occurs in 18 percent of the male population can have far reaching and serious consequences despite the fact that it is usually considered more of a nuisance than a severe medical problem.

The superior effectiveness of a new drug, Cerumenex, and the easy, safe, immediate and dramatic removal of ear wax was described in a report* based on a study of 70 patients suffering from varying degrees of impacted ear wax by Drs. Meyer Berger and Harry S. Bikoff, of the Jewish Hospital of Brooklyn, New York.

Of 47 pediatric and 23 adult patients treated with the drug, excellent results were obtained in 80 percent, fair results in 17.1 percent and poor results in 2.9 percent. Their findings showed that when all the wax was removed and the ear canal was left clean with tympanic membrane clearly visible, the result was considered excellent. When most of the wax was removed and the tympanic membrane could be examined, but some wax still clung to the surface of the canal, the result wos considered fair. When the wax was not removed at all or only an insignificant amount was removed, the result was considered poor.

The patients (ranging in age from 3 to 72 years) selected for this study had unusual amounts of ear wax with concomitant complaints of impaired hearing, fullness of the ear, ear itching and dizziness.

In commenting on the study, the physicians said "patient acceptance of Cerumenex was ex-

* New York State Journal of Medicine, Vol. 59, No. 9, May, 1959

cellent. In many cases ear wax was a recurring problem, and wax removal was regarded with apprehension. The simplicity of this method, the lack of instrumentation, and the time saved were factors appreciated by both physician and patient."

One of the most troublesome aspects of ear wax, they pointed out, "is the inordinate length of time the usual methods require. Ear wax can often be removed only after repeated syringing with persistent high pressure. There are inherent dangers in this procedure, as well as the possibility of severe pain."

From this study the researchers conclude "that the unusually high percentage of efficacy shown by Cerumenex and the ease of administration, as well as the total lack of adverse reactions, warrant its use in all cases of excessive and impacted ear wax."

CANCER RESEARCH GRANT

Award of a Grant creating another American Cancer Society professorship in cancer research was announced recently by Dr. Ambrose H. Storck, Regional Chairman from Louisiana, American Cancer Society, and Louisiana Division Board member. The Grant was made to Tulane University School of Medicine, to support the life-time cancer research of Dr. Emmanuel Farber, 40 year old Tulane University pathologist and biochemist.

Dr. Farber will attempt to combine two separate fields of study—Pathology and Biochemistry—into one by finding a biochemical basis for physical changes in cells. His effort to combine the two scientific disciplines is pioneer work. Dr. Farber has been working in the field of Pathology and Biochemistry since 1947 when he received an American Cancer Society Research Fellowship at the University of California. Later he received a Society Research Fellowship at Hektoen Institute for Medical research in Chicago. From 1951 to 1955, he was an American Cancer Society scholar in research at Tulane.

Dr. Farber's is the seventh life-time cancer research professorship established by the Society. Similar grants have been made to Roswell Park Memorial Institute, Buffalo, N. Y.; Vanderbilt University School of Medicine, Nashville, Tenn.; Harvard University, Cambridge, Mass.; University of Chicago, Chicago, Ill.; University of Wisconsin, Madison, Wisc.; and the University of Pennsylvania, Philadelphia, Penn.

Dr. Storck explained that in creating Dr. Farber's research professorship, the Society established a $100,000 trust fund as a guarantee and will pay the scientist's annual salary out of funds raised each year until the trust and accrued interest are sufficient to pay the remaining years of the Grant.

In the event Cancer is brought under control and the Society disbands, the $100,000 trust fund goes to the institution for continued medical research. If for some reason, Dr. Farber is unable to carry on his research work, the trust fund reverts to the Society.

Under terms of the Grant to Tulane University for Dr. Farber's research, the Society, in collaboration with the institution, creates an additional faculty level research position. The period of the grant runs until the age of retirement of Dr. Farber on June 30, 1984. The Society pledges to pay over these years a total of $328,000 for Dr. Farber's support.

TULANE SURGEONS WIN HEKTOEN MEDAL

The Hektoen Gold Medal of the American Medical Association has been awarded to a team of surgeons from Tulane school of Medicine for the best scientific exhibit at the 108th annual meeting of the AMA in Atlantic City, New Jersey. The exhibit was on the perfusion treatment for cancer, a technique developed at Tulane, and won out over 387 other scientific exhibits. The award was presented to Dr. Oscar Creech, Jr., professor of surgery and chairman of the department. Dr. Edward T. Krementz, associate professor of surgery, Dr. Keith Reemtsma, assistant professor of surgery, Dr. Robert F. Ryan, assistant professor of surgery and Dr. James Winblad, instructor in surgery. Perfusion consists in circulating chemotherapeutic agents through an isolated organ or limb by means of an extracorporeal circuit.

DIABETES ASSOCIATION OF LOUISIANA

On May 5, 1959, at a meeting of the Diabetes Association of Louisiana, new officers were elected for the coming year.

Dr. Frank Pickell of Baton Rouge was elected president; Dr. Daniel W. Hayes, vice-president; Dr. A. A. Herold, Sr., treasurer; and Dr. A. A. Herold, Jr., secretary. Dr. Herold, Sr. has been president of the Association since its founding in 1950.

Plans for the coming year include tentative plans for a meeting in November, to be held in Baton Rouge and to which physicians from all over the state will be invited. This meeting will feature a scientific program probably composed of a panel discussion, with other scientific papers on the various aspects of diabetes, particularly the oral agents in treatment.

Applications for membership in this Association may be obtained by writing Dr. A. A. Herold, Jr., Shreveport.

INTERNATIONAL COLLEGE OF SURGEONS TO MEET

The Mid-Atlantic Meeting of the International College of Surgeons will be held at the Homestead Hotel, Hot Springs, Virginia on November

16, 17 and 18th. The profession is cordially invited to attend.

SCHOLARSHIP AWARDED BY ALLERGY FOUNDATION OF AMERICA

Mr. Oney C. Raines of New Orleans, now in his third year at Tulane University School of Medicine has been awarded a $500 scholarship for research and clinical training this summer in the field of the allergic diseases by the Allergy Foundation of America.

Mr. Raines intends to study the skin manifestations of allergic sensitivity to aminopyrene, a drug commonly used as a substitute for aspirin. Allergic reactions to aminopyrene are seen fairly frequently at the Charity Hospital in New Orleans. Mr. Raines will study individuals who have suffered an allergic reaction of the skin to aminopyrene by means of patch tests and will then examine small biopsies of the skin to see what changes actually take place. He will carry out this work under the direction of Dr. Vincent J. Derbes, Professor of Medicine at Tulane University School of Medicine and Director of the Division of Allergy and Dermatology there.

AMERICAN ACADEMY OF PEDIATRICS LOUISIANA CHAPTER

The Louisiana Chapter of the American Academy of Pediatrics will present a Fall scientific session under the sponsorship of Lederle Laboratories. The Baton Rouge Pediatric Society will act as host. The meeting will be held Friday, September 18, 1959, at the Capitol House, Baton Rouge. The theme of the seminar will be MALIGNANCIES IN CHILDHOOD and will include the following subjects and speakers:

1) "Common Childhood Tumors" — Dr. James Arey, Pathologist, St. Christopher's Hospital, Temple University, Philadelphia, Pa.

2) "Malignancies of the Endocrine System" —Dr. Robert Greenblatt, Professor of Endocrinology, Medical College of Georgia

3) "Abdominal Masses in Children"—Dr. H. William Clatworthy, Jr., Head, Division of Pediatric Surgery, Ohio State University

4) "Radiologic Diagnoses of Childhood Malignancies"—Dr. Frederic Silverman, Department of Radiology, Children's Hospital, Cincinnati, Ohio

5) "Advances in Treatment of Blood Dyscrasias" — Dr. Wolf Zuelzer, Director Child Research Center, Michigan

6) "Chemotherapy of Malignancies" — Dr. John Haller, Head, National Cancer Institute, Bethesda, Md.

In addition, there will be two round tables with Dr. James King, St. Louis University, as moderator. At the noon banquet, Dr. John Young, Clinical Professor of Pediatrics, Southern University, will speak on "Emotional Problems of Parents and Children."

There will be other week-end activities in Baton Rouge on Saturday, September 19, 1959:

1) Breakfast meeting of the Louisiana Chapter of the American Academy of Pediatrics.

2) Sixth District Medical Society meeting, Saturday morning with the following program:

"The Acute Abdomen in Infants and Children"—Dr. H. Clatworthy

"Gonadal Dysgenesis" — Dr. Robert Greenblatt

"Unrecognized Skeletal Trauma in Infants and Children"—Dr. F. Silverman

3) L. S. U.—Rice Football Game, Saturday afternoon

There will be no registration fees for seminars. Wives invited.

Individuals interested in attending are urged to make their own reservations since there will be no Housing Bureau. Those desiring football tickets should write directly to the Athletic Department, L. S. U.

For additional information, write Dr. F. M. Harris, Jr., Secretary-Treasurer, 1401 N. Foster Dr., Baton Rouge 6, Louisiana.

AMERICAN INSTITUTE OF ULTRASONICS

The American Institute of Ultrasonics in Medicine will hold their Annual Meeting on September 2, 1959 at the Leamington Hotel, Minneapolis, Minnesota. The guest speaker at the Luncheon Meeting will be Russell Meyers, M. D., Professor of Surgery and Chairman, Division of Neurosurgery, State University of Iowa Hospitals and College of Medicine, who will discuss "The Potentials of Ultrasonics in General Surgery and Surgical Specialties." For any further information contact John H. Aldes, M. D., Secretary, 4833 Fountain Avenue, Los Angeles 29, California.

SOUTHEASTERN SURGICAL CONGRESS 1959 PRIZE SCIENTIFIC PAPER AWARD

The Southeastern Surgical Congress announces its Annual Prize Scientific Paper Award for 1959. The best unpublished contribution on surgery or allied subjects will be awarded $100.00 and expenses for the winner to attend its next annual meeting in New Orleans. The second place winner will receive $50.00 and third place winner will receive $25.00.

The contest is open to residents in AMA approved residences in the States of Alabama, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia and West Virginia.

Three copies of the paper should be sent to the Councilor of the state in which the resident

is living before December 1, 1959. The Councilor's name may be obtained by writing to the home office of the Southeastern Surgical Congress at 1032 Hurt Building, Atlanta 3, Georgia. The winner will present his paper before the Southeastern Surgical Congress Assembly in New Orleans, Louisiana, at the Roosevelt Hotel, March 21-24, 1960. The winner's expenses will be borne by the Congress, and the prize of $100.00 cash will be awarded at this meeting.

The Southeastern Surgical Congress reserves the right to submit the paper to the Editorial Board of its official publication, THE AMERICAN SURGEON, for publication. If the Editorial Board rejects the paper, the author is then free to seek publication elsewhere. All manuscripts must be typewritten in English in a form suitable for submission for publication.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

Applications for certification (American Board of Obstetrics and Gynecology), new and reopened, Part I, and requests for re-examination Part II are now being accepted. All candidates are urged to make such application at the earliest possible date. Deadline date for receipt of applications is August 1, 1959. No applications can be accepted after that date.

Candidates are requested to write to the office of Robert L. Faulkner, M. D., Secretary, 2105 Adelbert Road, Cleveland 6, Ohio, for a current Bulletin if they have not done so in order that they might be well informed as to the present requirements. Application fee ($35.00), photographs, and lists of hospital admissions must accompany all applications.

FOURTH INTERNATIONAL GOITER CONFERENCE SUBMISSION OF ABSTRACTS

The Fourth International Goiter Conference will be held on the Royal College of Surgeons, London, England, July 5-9, 1960. Abstracts of American papers to be considered for presentation should be sent to J. E. Rall, M. D., National Institute of Arthritis and Metabolic Diseases, National Institutes of Health, Bethesda 14, Maryland. Abstracts from all other countries are to be sent to Dr. Selwyn Taylor, 3 Roedean Crescent, Roehampton, London, S.W. 3, England.

All American abstracts must be received by Dr. Rall by **December 1, 1959**. They should not exceed 400 words and should be submitted in quintuplicate.

Presentation of papers will be limited to fifteen minutes, and a copy of the final paper must be sent to the London Secretary two weeks prior to the meeting.

AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS

In 1956, the American Medical Association passed a resolution, at its clinical meeting in Seattle, Washington, commending the objectives of the newly formed American Association of Medical Assistants and its component chapters. From a small beginning the AAMA has spread to twenty-three states with over seven thousand members. The associations in these states are organized under the supervision of the county and state medical societies, and each county and state organization is guided by doctor advisors appointed by the county and state medical societies.

The American Association of Medical Assistants renders educational services for the self improvement of members and the advancement of doctor-patient relations. The AAMA is striving for a standard national educational program which will eventually offer certification and registration of assistants.

A central office with an Executive Secretary has been opened at 510 North Dearborn Street, Chicago 10, Illinois, in order to facilitate the operations and plans of AAMA, and provide closer means of communication with the State organizations and their component chapters, as well as to aid in the formation of new chapters.

In Louisiana, efforts are being made to establish chapters throughout the state and become affiliated with the AAMA. The New Orleans Medical Assistants Association was formed in September 1958, and the medical assistants of East Baton Rouge Parish began to set up a chapter in May 1959.

For further information contact Miss Thelma Greene, Membership Chairman, AAMA, 1009 Bennie Dillon Bldg., Nashville 3, Tenn., or Miss Margaret L. Marks, c/o Dr. Philip H. Jones, 4500 Magnolia Street, New Orleans 15, La.

BOOK REVIEWS

Manual of Pharmacology and its Applications to Therapeutics and Toxicology; by Torald Sollmann, M. D., 8th edition, Philadelphia, Pa., W. B. Saunders Company, 1957, pp 1535, Price $20.00

This is an encyclopedic type of compendium. Unfortunately, in an effort to conserve space, the author has had to relinquish considerable of the information contained in earlier editions. This edition of Sollmann includes the most important aspects of pharmacology throughout the past and into the present, but the bibliography has been restricted to papers published after January 1, 1940. However, older references in the text can be secured by consulting the bibliographies of previous editions. This book is signally free from misinformation, ambiguities, typographical and other editorial errors.

One problem which the reviewers have encountered with this book is the index. This is unfortunately incomplete, and is not as modern as the text proper or the bibliography. For example, the term "tranquillizing sedative" is used in the discussion of reserpine, but this term does not appear in the index. Moreover, a number of modern terms in common usage before the publication of the book are not mentioned; e.g., ataraxic.

The author treats pharmacology as an independent discipline. The manner in which the text is outlined does not differ substantially from previous editions. In certain instances this may present difficulties, particularly when this book is used along with most other reference books. On the other hand, the type of arrangement used functions admirably to integrate information from a variety of sources.

To use this book to its fullest advantage requires some previous background in pharmacology on the part of the reader.

W. A. Krivoy, Ph.D.
J. M. Fujimoto, Ph.D.

Introduction to Biostatistics; by Huldah Bancroft, Ph.D., New York, Hoeber-Harper, 1957, pp. 210. Price $5.75.

This clearly written text is designed for use in teaching elementary techniques of statistical analysis to medical students in about 50 clock hours—15 hours of lecture and the remaining hours in supervised laboratory. Accordingly, it relies heavily upon teaching by well-selected illustrations from clinical medicine. A minimum of space is devoted to definition of the problem, data collection, and hypothesis testing, however, repeated warnings are given against common errors. A practical suggestion for a card system of recording data is recommended over usual hand tabulation.

Among the topics treated are the usual descriptive techniques, large sample tests of means and proportions, the binomial, test for small samples, chi-square, correlation and regression. The author skillfully emphasizes the distinction between the analysis of enumeration or counting data and measurement data. The reference to measures of central tendency as "centering constants" is a meaningful concept. A table for estimating necessary sample size is made conveniently available. The short chapter on biological assay is a useful orientation to the subject.

Since the book gives considerable attention to vital statistics, personnel in the field of public health should find the book useful. The chapters on life table techniques should be appealing; this is especially true of the chapter which describes the use of the life table in follow-up studies of inoculation, vaccination, and chronic illness.

The format of the book is pleasing and the type is large enough to be read easily. There are a few typographical errors which will probably be corrected in subsequent printings. In the structure of correlation tables the relation of x and y components differs from that usually found in other texts.

The book reflects the author's skill as a teacher as well as her vast experience as a consulting statistician to members of the medical profession. It should appeal not only to medical students but provide a useful reference for physicians, and others, since the only mathematical knowledge presupposed is a course in high school algebra. The book is a well-organized sound treatise.

Robert L. Simmons, M.D.

PUBLICATIONS RECEIVED

Paul B. Hoeber, Inc., N. Y.: Clinical Obstetrics and Gynecology, Volume 2, Number 1, March 1959, by various contributors.

C. V. Mosby Co., St. Louis: Surgery of the Foot, by Henri L. DuVries, M. D.

W. B. Saunders Co., Phila.: Preventive Medicine; Principles of Prevention in the Occurrence and Progression of Disease, edited by Herman E. Hilleboe, M. D., and Granville W. Larimore, M. D.; Trauma, by Harrison L. McLaughlin, M. D.; That the Patient May Know, by Harry F. Dowling, M. D., and Tom Jones, B.F.A.

Charles C Thomas, Publisher, Springfield, Ill.: Coronary Heart Disease, by John William Gofman, M. D.

Williams & Wilkins Co., Balt.: Aids to Neurology, by E. A. Blake Pritchard, M. D. (2nd edit.).



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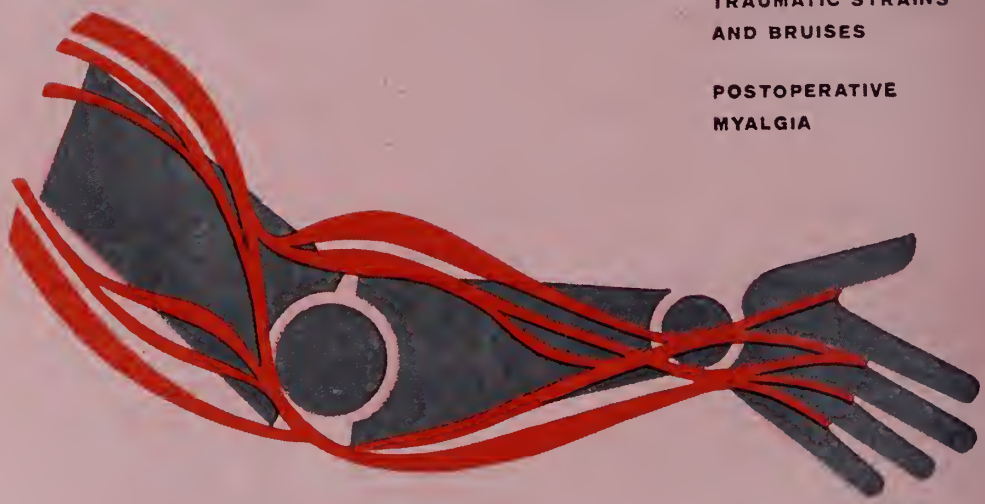
*Brown, S. S.; Libo, H. W., and Nussboum, A. H.: Norethandrolone in the Successful Monagement of Anorexio ond "Weight Lag" in Children, Scientific Exhibit presented ot the Annuol Meeting of the American Academy of Pediotrics, Chicago, Oct. 20-23, 1958.

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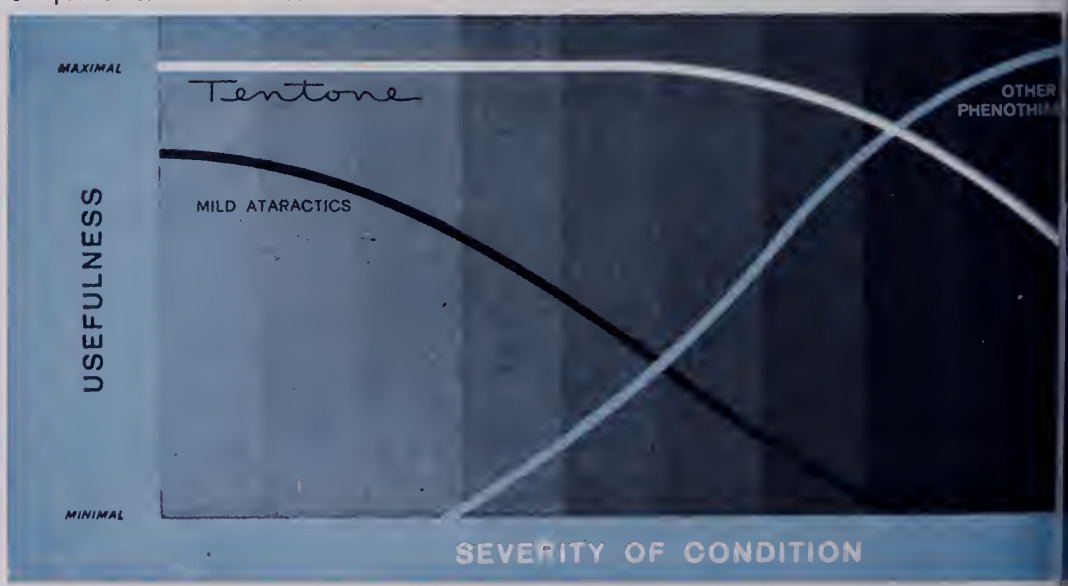
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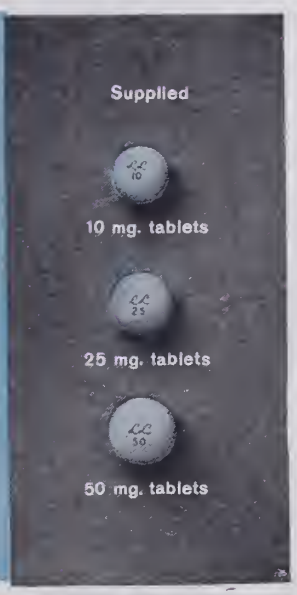
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Doctor, do you recognize this patient? She complains of flatulence, constipation with alternating periods of diarrhea, and colicky pains in the lower right quadrant. At other times she is troubled by anorexia, lassitude, dull headache, muscle pains and backache. Or she may have only one or two of these symptoms.

In these puzzling cases, serious consideration should be given to intestinal amebiasis—the disease of many masks. Clinicians say it is "one of the most widespread and serious protozoan diseases of man," yet "there is no parasite more often misdiagnosed than is *E. histolytica*." Conservative estimates place the incidence at 10% of the United States population as a whole, and 16% in southern states.

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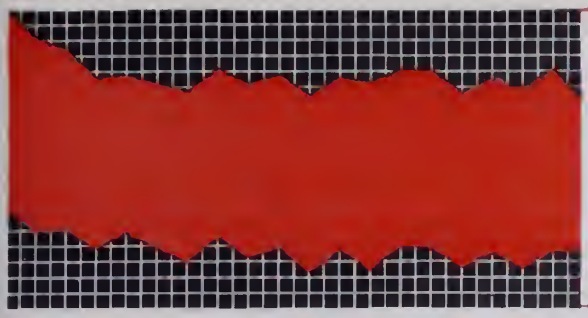
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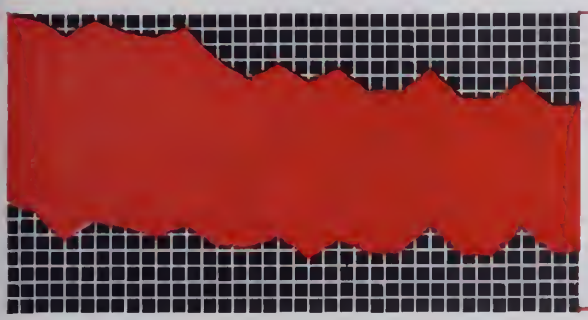
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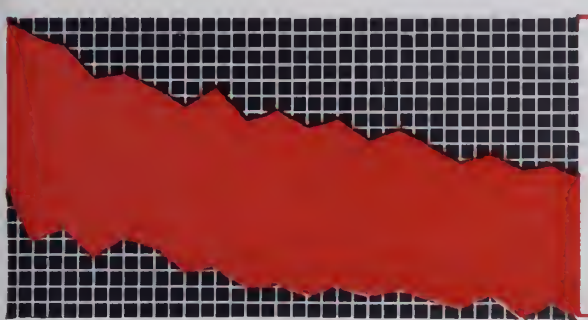
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- Effective by itself in a majority of patients. Provides smooth, more trouble-free management of hypertension.
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25 mg. HYDRODIURIL, 0.125 mg. reserpine.
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. . . in nearly all external symptoms of *pain*, *itching* and *burning*, e.g., sunburn, minor burns, insect bites, abrasions, poison ivy and other contact dermatitis, hemorrhoids and inoperable anorectal conditions, and cracked nipples.

Xylocaine Ointment, a surface or topical anesthetic, gives fast, effective and long lasting relief. Its *water-soluble*, *nonstaining* base melts on contact with the skin, to assure immediate release of the anesthetic for fast action and it does not interfere with the healing processes.

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key to Kent's popularity

In 1958, Kent made the greatest gain in popularity ever recorded by any filter cigarette in any year—a sales increase of 20-billion cigarettes.

Behind this popularity is a story of months and years of research, perfecting the remarkable combination of filter action and flavor found in today's Kent cigarette. In developing Kent, Lorillard research scientists recognized that smokers wanted, on the one hand, a really satisfying taste; on the other, reduced tars and nicotine. In addition, smokers demanded a free and easy draw.

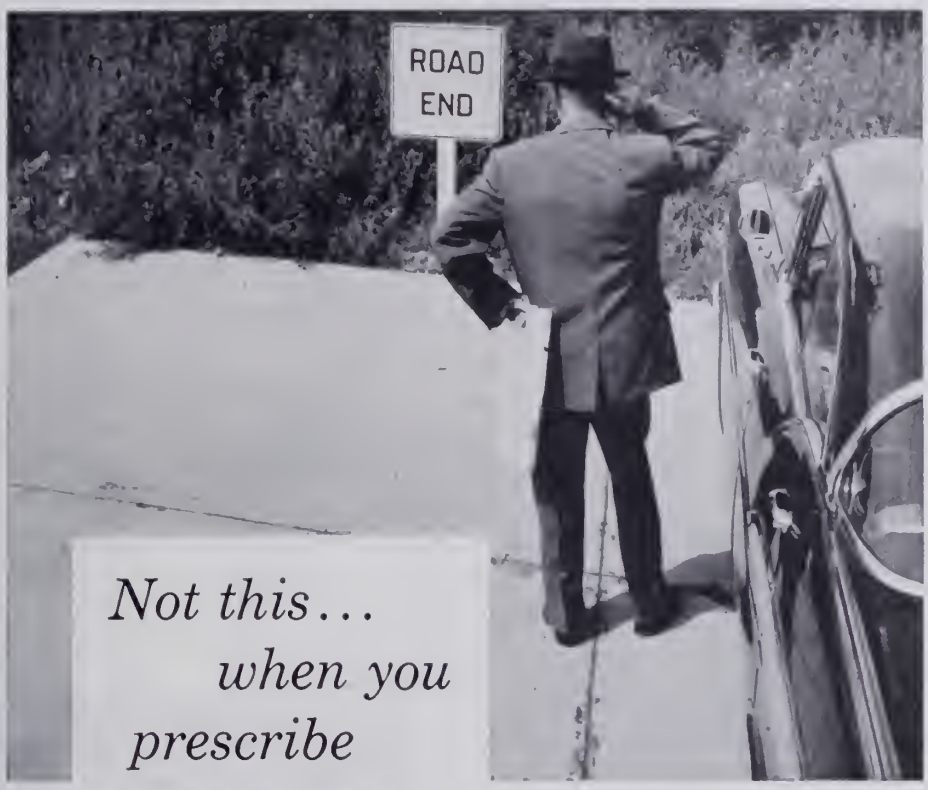
These, then, were the objectives. The first scientific breakthrough in the project was the development of the exclusive Micronite filter, patented by Lorillard. This filter was created because of newly-discovered principles in the field of filtration, which have been previously described in these pages.

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MODANE doesn't leave your patient stranded on the road to Recovery with no help for the flaccid, atonic bowel. Modane takes him *all* the way—through RELIEF and REHABILITATION.

MODANE's danthron provides prompt, positive relief — without irritation or griping — acts systemically to stimulate only the large intestine. But more! — MODANE's pantothenic acid favors revitalization of the atonic bowel — stimulates the body's formation of a normal supply of acetylcholine, so essential for optimal peristalsis.

Prescribe MODANE — the deconstipant which relieves *and* helps rehabilitate.

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Tablets Regular (yellow), Tablets Mild (pink), and Liquid. Each Tablet Regular contains 75 mg. danthron (1,8-dihydroxyanthraquinone) and 25 mg. calcium pantothenate. Each Tablet Mild and teaspoonful Liquid contains 37.5 mg. danthron and 12.5 mg. calcium pantothenate.

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Each pill is
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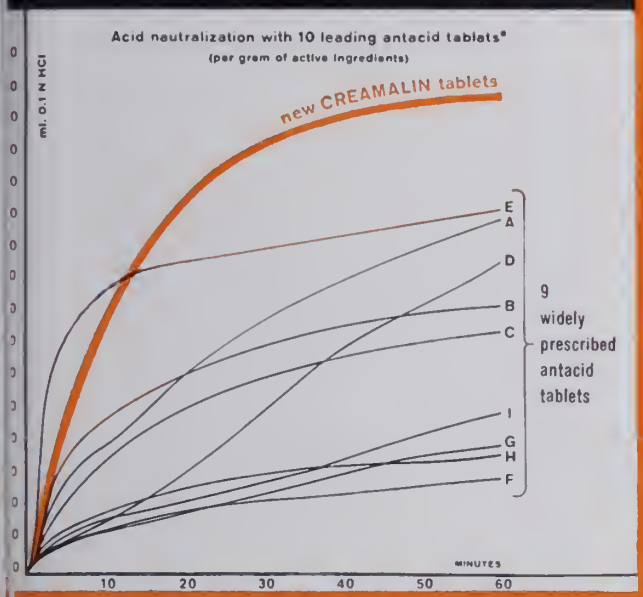
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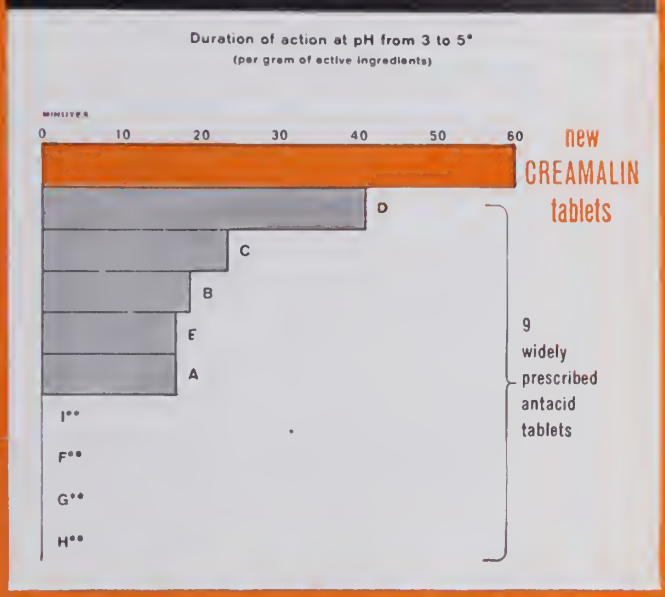
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*Hansel, E. T., Jr., Fisher and Tainter, M. L. A new, highly reactive aluminum hydroxide complex for gastric hyperacidity. To be published.

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[1]Sadove, Max S. and Schwartz, Lester: An Evaluation of Buffered Versus Nonbuffered Acetylsalicylic Acid, Postgraduate Medicine; 24:183, August, 1958.

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Each ANTIVERT *tablet contains:*

Meclizine (12.5 mg.)—most effective antihistaminic to control vestibular dysfunction.[1]

Nicotinic acid (50 mg.)—the drug of choice for prompt vasodilation.[2,3]

Advantage of "dual therapy" confirmed:

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Dosage: one tablet before each meal.

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References: 1. Charles, C. M.: Geriatrics 2:110 (March) 1956. 2. Menger, H. C.: Clin. Med. *4*:313 (March) 1957. 3. Shuster, B. H.: M. Clin. North America *40*:1787 (Nov.) 1956.

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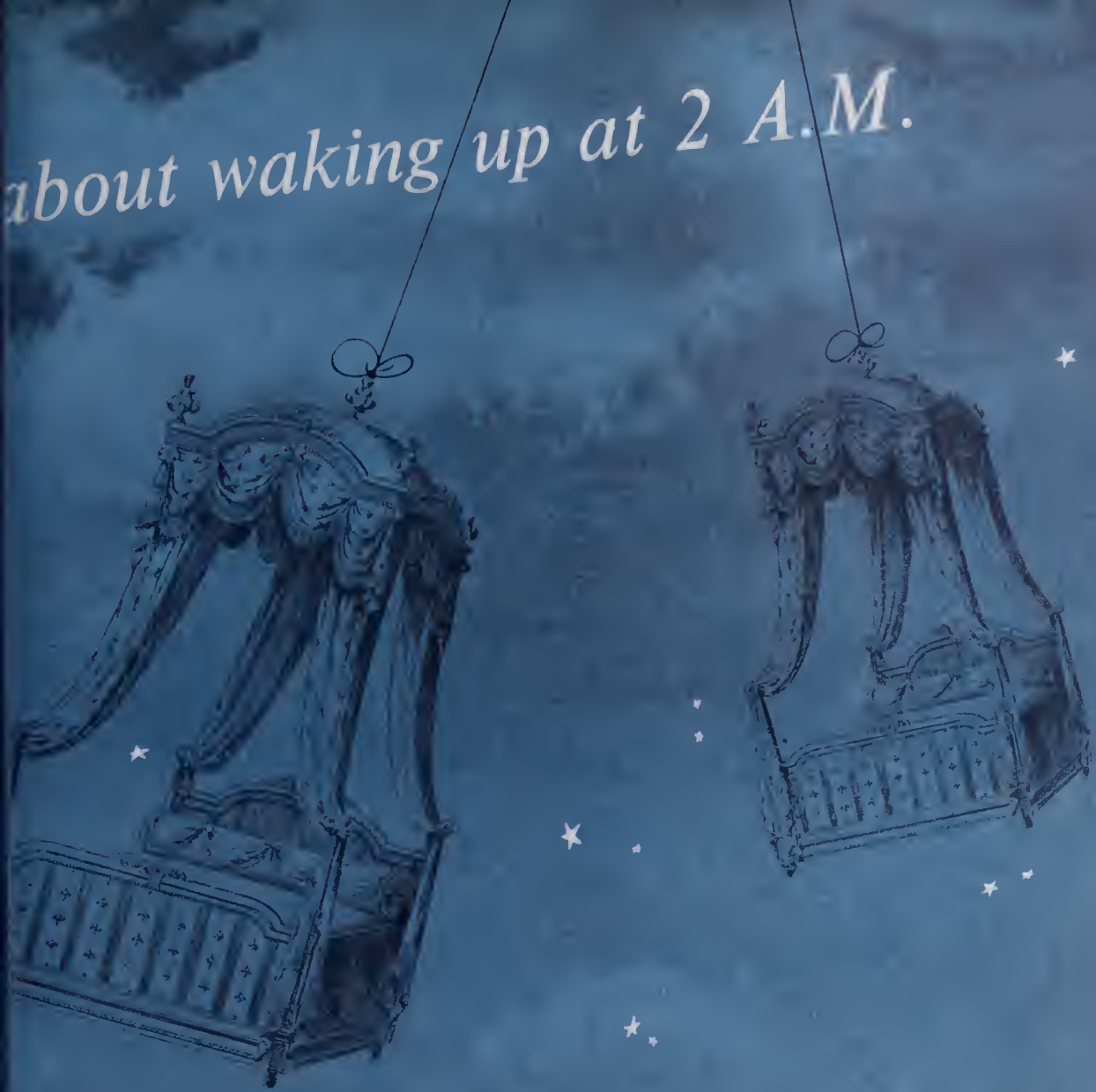
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1 Schlesinger, E. B.: Tr. New York Acad. Sc. 2:6, (Nov.) 1948.
2 Richards, R. K., and Taylor, J. D.: Anesthesiology 17:414, 1956.
3 Shideman, F. E.: Postgrad. Med. 24:207, 1958.
4 Berger, F.: Pharmacol. Rev. 1:243, 1949.

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Indications: *Generalized pruritus of allergic origin; hay fever, allergic rhinitis, perennial asthma, seasonal and perennial rhinitis, vasomotor rhinitis; drug reactions and other allergic conditions.*

Dosage: *One to eight capsules a day in divided doses. Dosages should be established on the basis of individual therapeutic response.*

Precautions: *Drowsiness may occur, and is usually due to the antihistamine effect. Occasionally this may also cause vertigo, pruritus and urticaria. Because of the low dosage, side effects with* ARISTOMIN *have been relatively infrequent and minor in nature. However, since* ARISTOCORT *Triamcinolone is a highly potent glucocorticoid with profound metabolic effect, all precautions and contraindications traditional to corticosteroid therapy should be observed. Discontinuance of therapy must not be sudden after patients have been on steroids for prolonged periods. It must be carried out gradually over a period of as much as several weeks.*

Further information available on request.

Supply: *Each* ARISTOMIN *Capsule contains:*

ARISTOCORT® *Triamcinolone*	*1 mg.*
Chlorpheniramine Maleate	*2 mg.*
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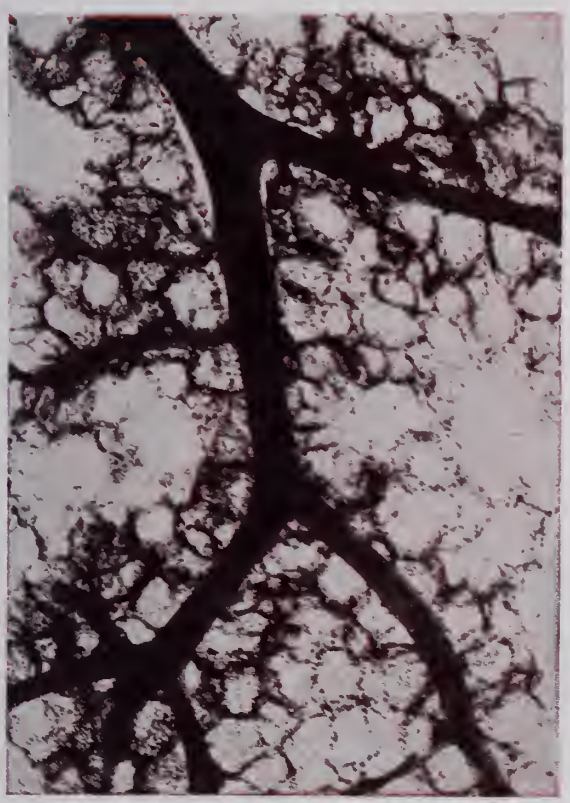
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References: *1. Maurer, M. L.: Clinical Report, cited with permission. 2. Levin, L.: Clinical Report, cited with permission. 3. Gaillard, G. E.: Clinical Report, cited with permission.*

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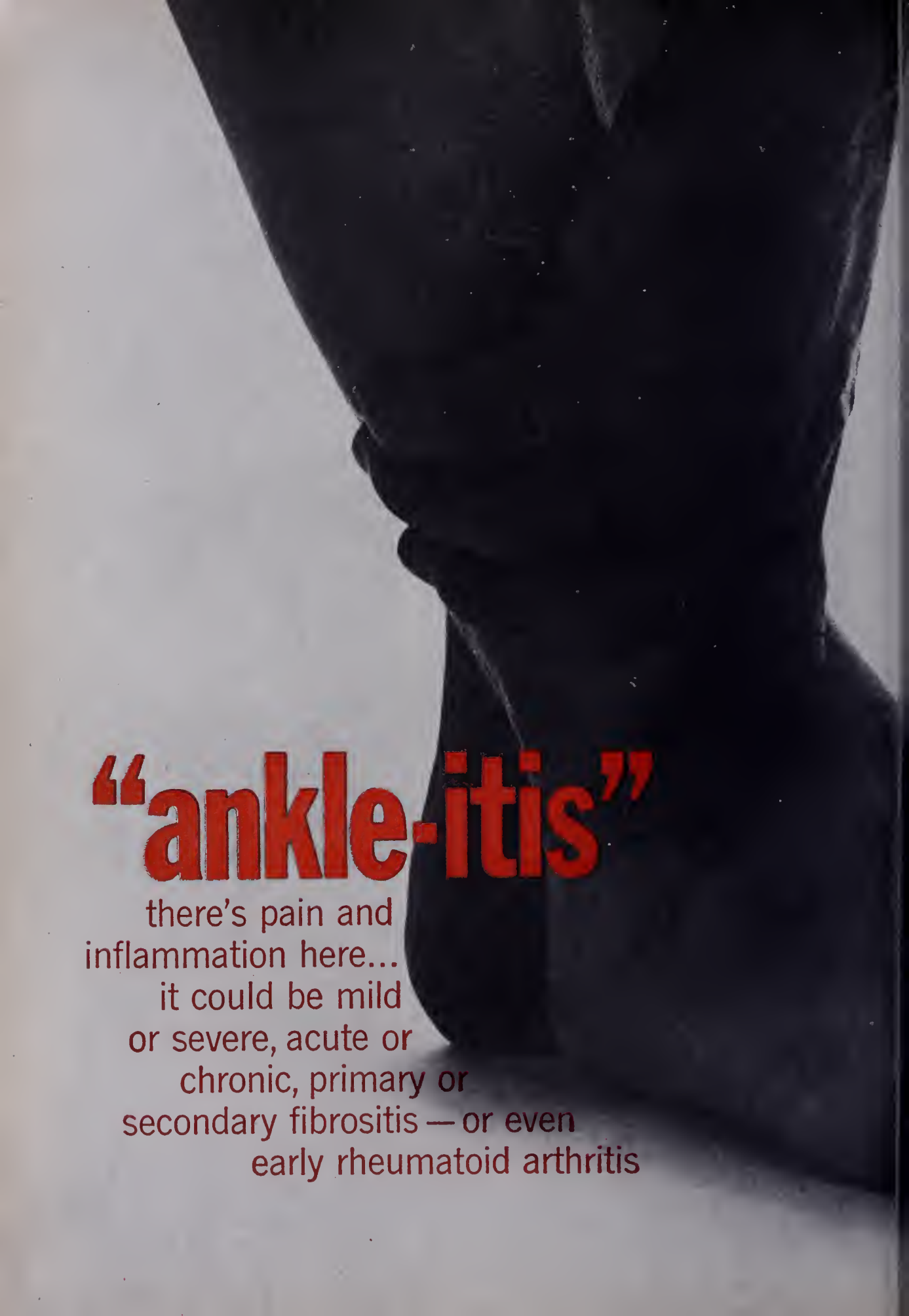
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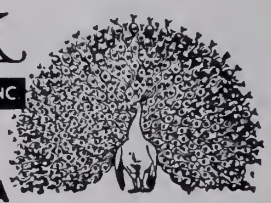
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(1) Rubin, A., and Babbott, D.: J.A.M.A. *168*:498, (Oct. 4) 1958. (2) Kinsey, A. C.; Pomeroy, W. B., and Martin, C. E.: Sexual Behavior in the Human Male, Philadelphia, W. B. Saunders Company, 1948.

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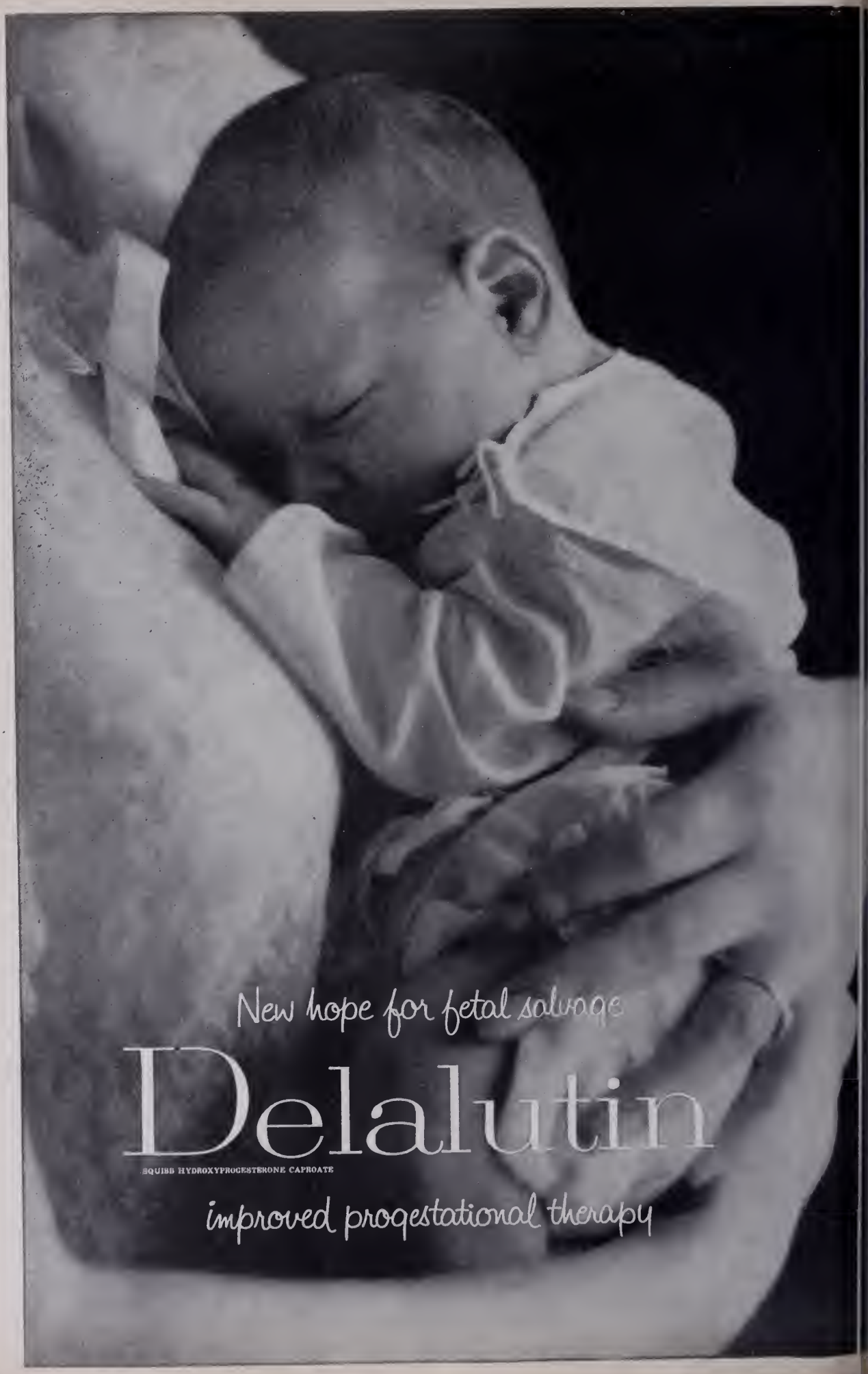
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Boschann,[2] in a study of pregnancies with threatened abortion, found that:

37% of 73 pregnancies were carried to term without progestational therapy
64% of 42 pregnancies were salvaged by progesterone
83% of 73 pregnancies were salvaged by Delalutin

Eichner,[3] found that with Delalutin fetal salvage of infants below term weight (1000 to 2000 gm.) was significantly improved.
108 (76%) of 142 babies of this birth weight survived without progestational therapy.
16 (100%) of 16 babies of this birth weight survived with Delalutin therapy.
A comparison study was made of a group of repeated aborters treated with Delalutin, and a group with a similar history treated with bed rest and sedation.[4] Pregnancy salvage with Delalutin was twice that of the control group. Delalutin was found to be "highly active," well-tolerated and long-acting.

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- requires fewer injections
- low viscosity makes administration easier

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Supply: Delalutin is available in vials of 2 and 10 cc., each cc. containing 125 mg. of hydroxyprogesterone caproate in sesame oil, and benzyl benzoate.

References: 1. Reifenstein, E. C., Jr.: *Annals N. Y. Acad. Sci.* 71:762 (July 30) 1958. 2. Boschann, H-W.: *ibid.*, p. 727. 3. Eichner, E.: *ibid.*, p. 787. 4. Hodgkinson, C. P.; Igna, E. J., and Bukeavich, A. P.: *Am. J. Obst. and Gyn.* 76:279, 1958.

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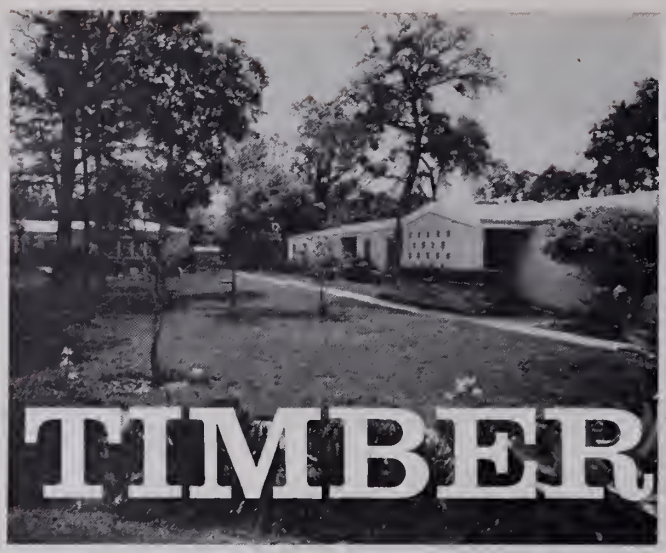
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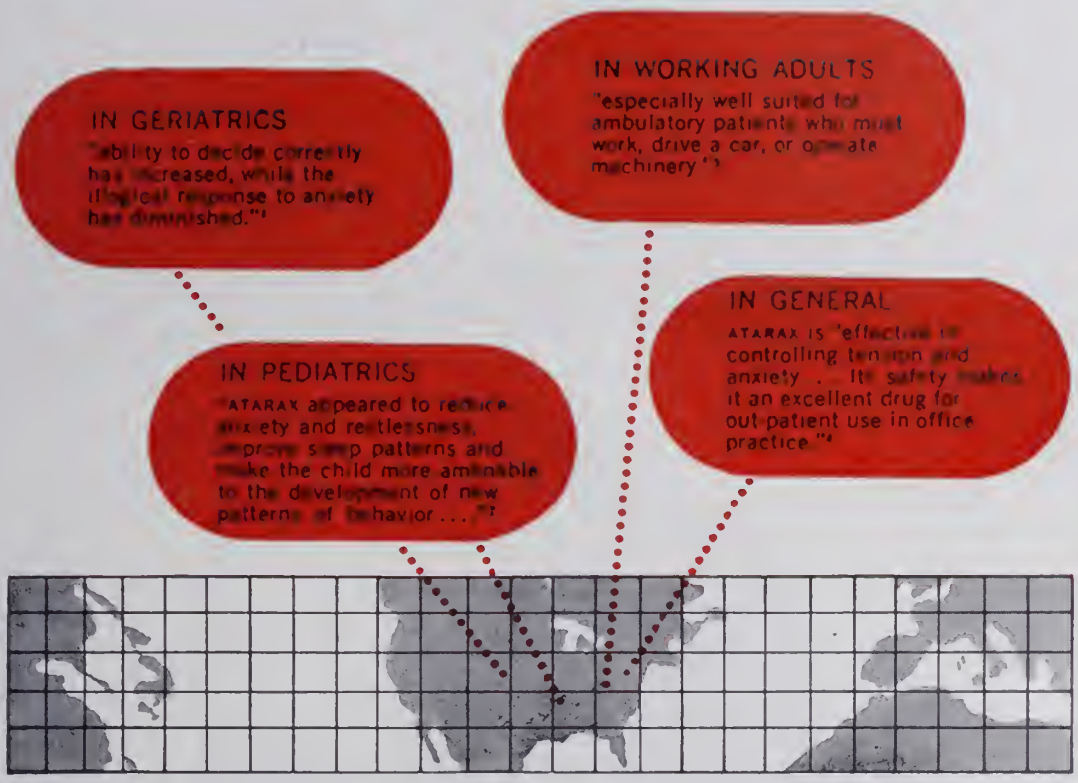
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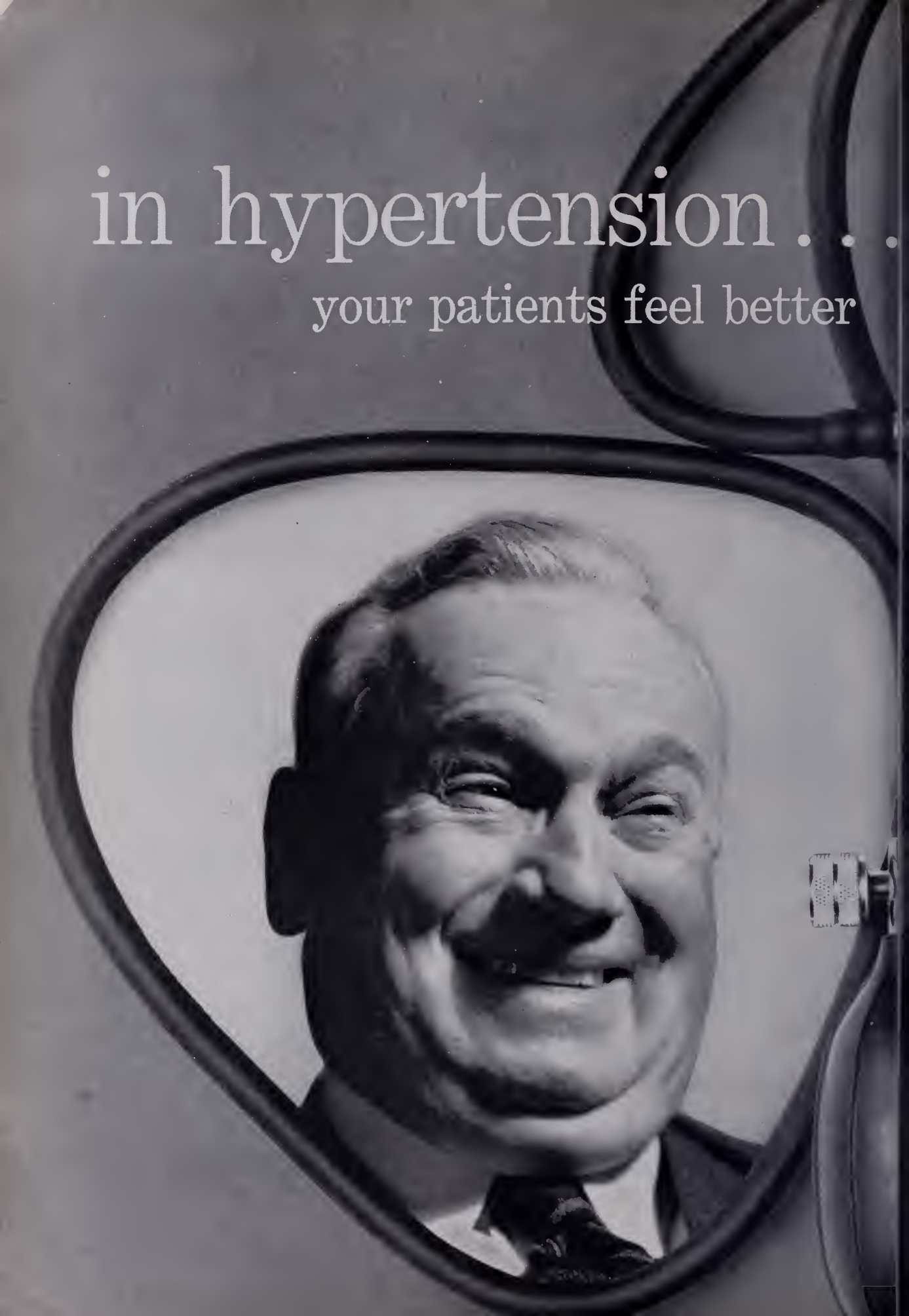
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References: 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America **5**:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. **57**:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. **58**:1684 (May 15) 1958. 5. Coirault, M., et al.: Presse méd. **64**:2239 (Dec. 26) 1956. 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

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1. Moyer, J. H.; Dennis, E., and Ford, R.: Arch. Int. Med. *96*:530, 1955.
2. Terman, L. A.: Illinois M. J. *3*:67, 1957.
3. La Barbera, J. F.: M. Rec. & Ann. *50*:242, 1956.
4. Bendig, A.: New York J. Med. *66*:2523, 1956.

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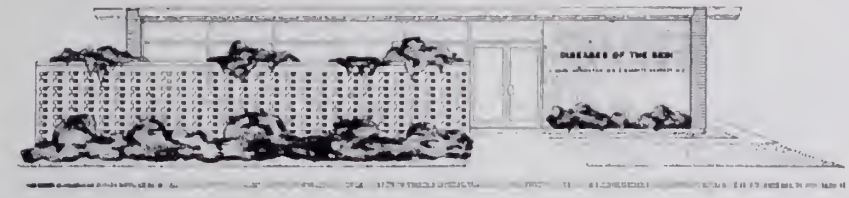
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THE POLIO STORY

At the close of the 27th week of 1959, Louisiana had 41 cases of poliomyelitis. Of this number, 32 were paralytic (including 2 deaths and 2 other bulbar cases) and 9 were non-paralytic. As of the same date last year, we had 20 cases—15 paralytic and 5 non-paralytic.

A recent house-to-house survey made in two Louisiana cities (Monroe and Lafayette), under the supervision of the United States Public Health Service, showed the following percentage of persons having three or more injections of poliomyelitis vaccine:

Age Group	Under 5				5 - 14				15 - 39			
Economic Level	U	M	L	N	U	M	L	N	U	M	L	N
Monroe	67.6	53.8	35.0	44.2	93.8	85.1	81.0	67.1	58.2	44.9	43.0	25.3
Lafayette	75.5	74.1	46.2	42.6	95.2	85.7	67.6	60.0	64.4	61.8	25.2	24.1

(U = Upper; M = Middle; L = Lower; N = Negro.)

As these figures indicate, a fairly high percentage of the total population under 40 years of age has been immunized against polio—although there is still room for improvement—and there is no reason to believe that these two cities are not representative of the entire state.

Of the 32 paralytic cases, 10 were in vaccinated individuals, as compared to 21 (including the 2 deaths and the 2 other bulbar cases) in non-vaccinated persons. Of the 9 non-paralytic cases, 5 were vaccinated and 4 were not.

Admittedly the vaccine is not 100% effective, but obviously it greatly reduces the incidence of paralysis. We should exert every effort to give this protection to all persons of susceptible age under our care.



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Recommended dosage: First-day dose is 1 teaspoonful (250 for each 20 lbs. body weight up to 80 lbs. For each day ther ½ teaspoonful for each 20 lbs. For 80 lbs. and over, use dosage of 4 teaspoonfuls (1.0 Gm.) initially, and 2 teaspo (0.5 Gm.) daily thereafter. Administer after a meal.

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for low back pai

case profile no. 2758*

A middle-aged man had intermittent low back pain attributed to injuries received in an automobile accident three years ago. The pain radiated down both legs, making the patient walk bent over. He also had difficulty in getting out of bed and had to pull his knees up and roll out. Any heavy lifting precipitated a new attack, and he tired easily.

Findings on x-ray of the thoracic and lumbar spine were negative. All other laboratory studies were within normal limits. A herniated disc, though still a possibility, was temporarily ruled out by the neurologic examination. Previous treatment consisted of analgesics, steroids (without success), and narcotics during severe attacks.

On a dosage of Trancopal, 100 mg. t.i.d., this patient is able to walk around almost normally and carry on his regular activities as long as he does not overdo. He has received Trancopal for over seven months with excellent relief of symptoms. There have been no side effects.

**Clinical Reports on file at the Department of Medical Research, Winthrop Laboratories.*



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when you

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Trancopal®

for dysmenorrhea
and premenstrual tension



case profile no. 3347*

A 35-year-old housewife had a history of severe dysmenorrhea and premenstrual tension. Menarche occurred at the age of 14. She is a gravida 2, para 1. Her menstrual cycle is fairly regular, and previous medical history indicates no apparent abnormalities. Findings on pelvic examination were negative. Severe tension and irritability routinely occurred from two to seven days before and during menstruation. Cramping was experienced for all three days of the menstrual period. Analgesic preparations provided limited symptomatic relief.

Trancopal, 200 mg. t.i.d., was prescribed for dysmenorrhea. It not only has relieved the severe cramping, but has provided a welcome relief from the irritability accompanying it. Because of these excellent results, Trancopal also was prescribed for her tenseness during the premenstrual period with a most gratifying response.

This patient has successfully remained on the above regimen for over six months without adverse effects.

Turn Page for Complete Listing of Indications and Dosage

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effective tranquilizer

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- In anxiety and tension states, effective in 88% of patients.[1]
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- No gastric irritation. Can be taken before meals.
- No clouding of consciousness, no euphoria or depression.

Indications:

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Low back pain (lumbago, etc.)
Neck pain (torticollis, etc.)
Bursitis
Rheumatoid arthritis
Osteoarthritis
Disc syndrome
Fibrositis
Ankle sprain, tennis elbow, etc.
Myositis
Postoperative muscle spasm

Psychogenic:
Anxiety and tension states
Dysmenorrhea
Premenstrual tension
Asthma
Angina pectoris
Alcoholism



100 mg

Dosage: Adults, 100 or 200 mg. orally three or four times daily. Relief of symptoms occurs in fifteen to thirty minutes and lasts from four to six hours.

1. Collective Study, Department of Medical Research, Winthrop Laboratories.

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when pollen allergens attack the nose...

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These antihistamines block the effect of histamine on the nasal and paranasal capillaries, preventing dilation and exudation.[3] *This is not enough;* by the time the physician is called on to provide relief, histamine damage is usually present and should be counteracted.

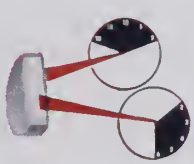
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References: 1. Sheldon, J. M.: Postgrad. Med. 14:465 (Dec.) 1953. 2. Hubbard, T. F. and Berger, A. J.: Annals Allergy p. 350 (May-June) 1950. 3. Kline, B. S.: J. Allergy 19:19 (Jan.) 1948. 4. Goodman, L. S. and Gilman, A.: Pharmacol. Basis Ther., Macmillan, New York, 1956, p. 532. 5. Fabricant, N. D.: F.E.N.T. Monthly 37:160 (July) 1958. 6. Lhotka, F. M.: Illinois M.J. 112:259 (Dec.) 1957. 7. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

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bibliography: (1) Carter, S. M.: *M. Clin. North America:* 315 (March) 1953. (2) Chao, D. H.: *Ibid.*, p. 465. (3) man, L. S., & Gilman, A.: The Pharmacological Basis of Therapeutics, ed. 2, New York, MacMillan Company, p. 187. (4) Davidson, D. T., Jr., in Conn, H. F: Current Therapy 1958, Philadelphia, W. B. Saunders Co 1958, p. 568. (5) Zimmerman, F. T.: *New York J. Med.* 55:2338, 1955. (6) French, E. G.; Rey-Bellet, J., & I W. G.: *New England J. Med.* 258:892 (May 1) 1958.



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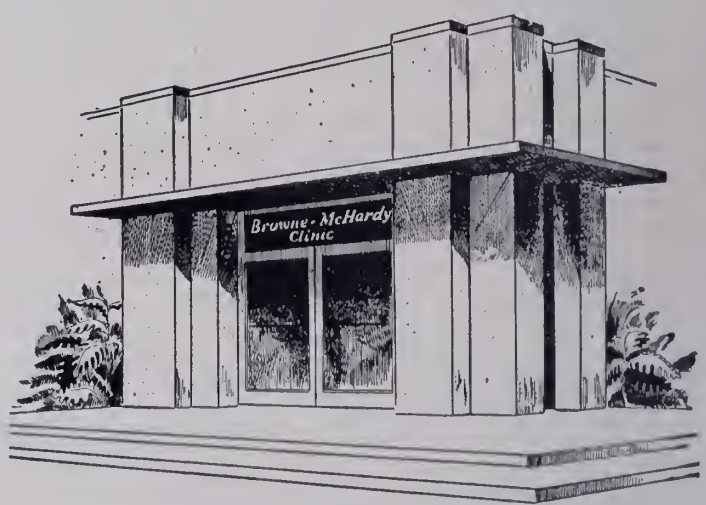
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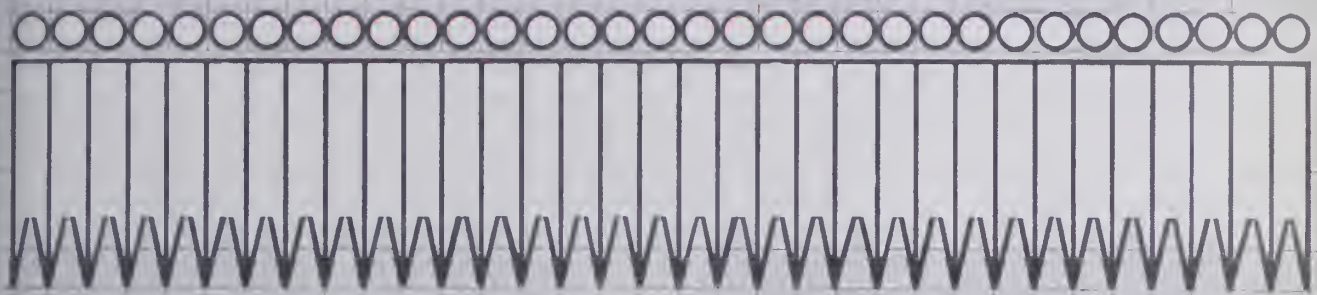
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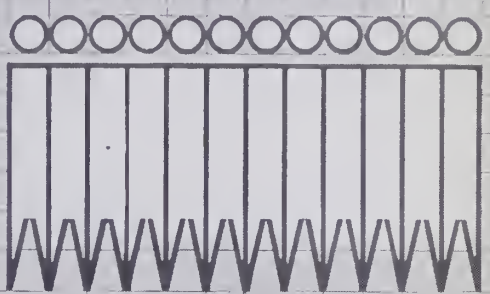
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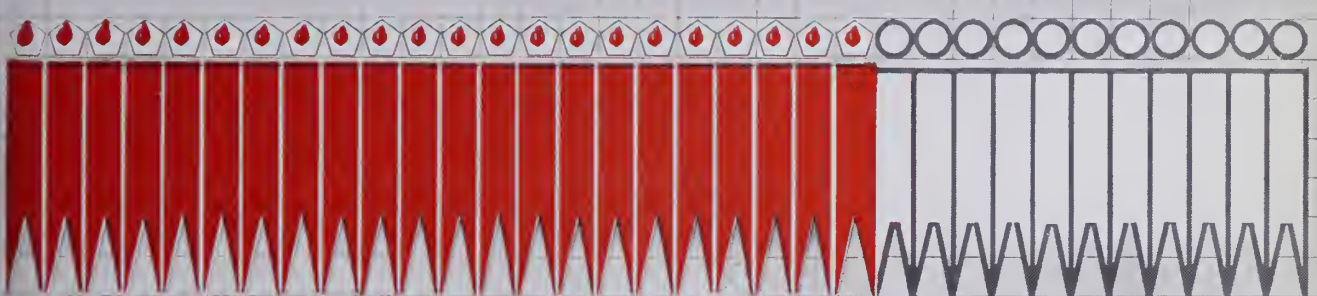
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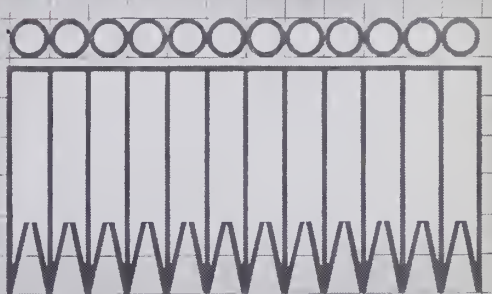
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1. Boland, E. W., and Headley, N. E.: Paper read before the Am. Rheum. Assoc., San Francisco, Calif., June 21, 1958.
2. Bunim, J. J., et al.: Paper read before the Am. Rheum. Assoc., San Francisco, Calif., June 21, 1958.

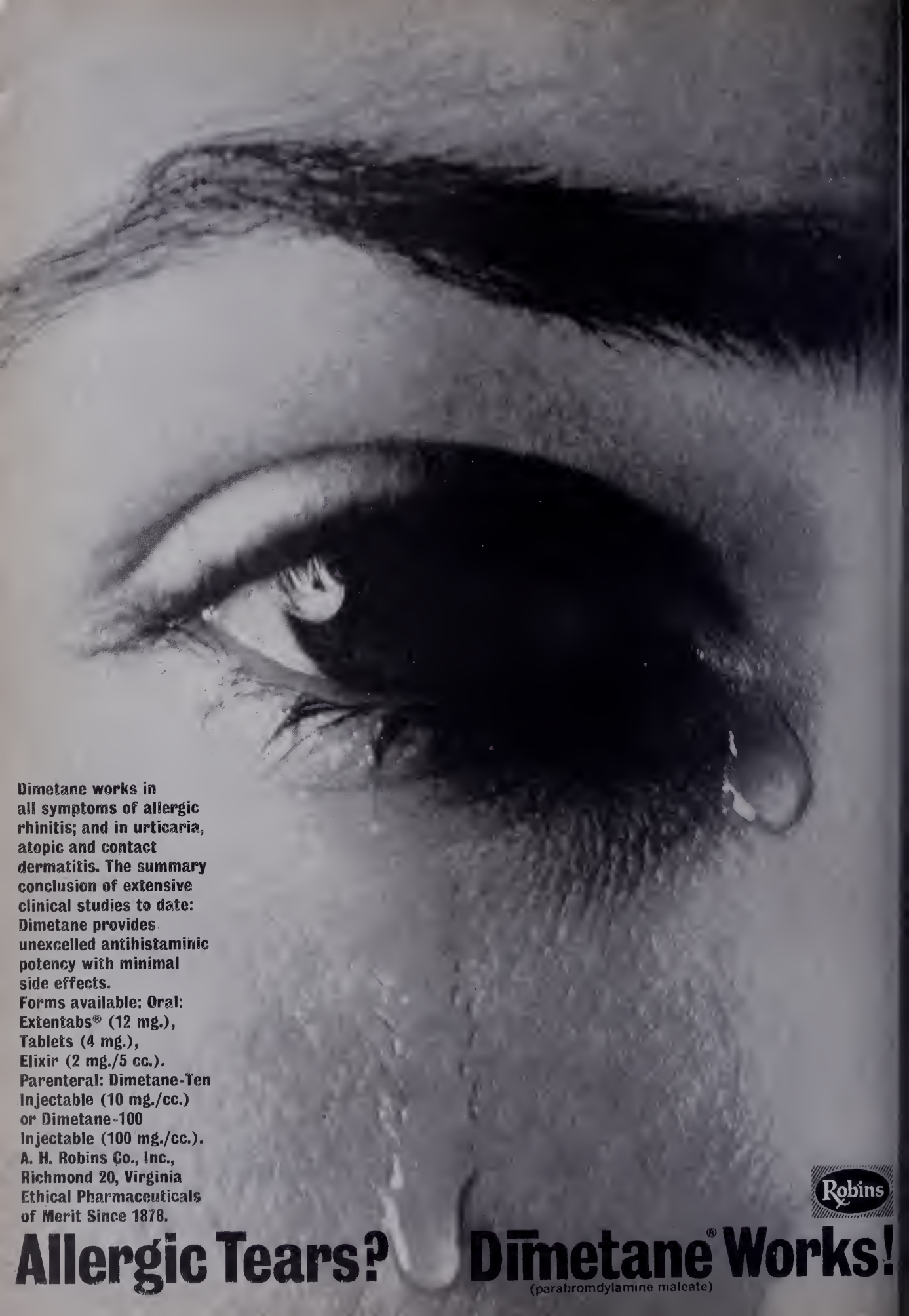
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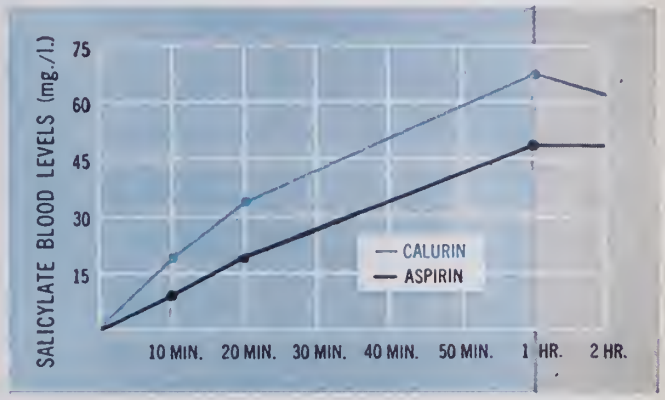
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Current Status of Surgical Treatment for Peptic Ulcer*

• Every effort is made to individualize the treatment when surgery is employed in peptic ulcer, and the choice of operation is made only after consideration of many factors.

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UNTIL the exact cause of peptic ulcer has been clearly delineated, and perhaps even after that date, the surgeon will continue to play a well-established part in the treatment of this condition. Perhaps nowhere is there a more strikingly clear-cut outline of exactly what is known at present concerning the causation of this condition than in a recent communication by Dragstedt.[1] He presents not only a most logical discussion of causative factors of this lesion but also a well-reasoned plan for therapy, based upon the knowledge in question. Our only departure from Dragstedt's conclusions is that we have been unable to reproduce the consistently excellent results in every case, using the type of operation he favors. More will be said about this in a moment.

Some decades ago American surgeons standardized their treatment in the form of simple gastroenterostomy, the idea being that the constant presence of alkaline material within the stomach would not only heal an ulcer but would protect the stomach against further ulceration. The operation appears to have produced very satisfactory results for many patients, but the high incidence of gastrojejunal ulceration developing some months to years postoperatively led most surgeons to turn away from simple gastroenterostomy.

Then the wide favor accorded radical gastric resection in Europe spread from that continent to America, so that the radical procedure in turn was taken up as the operation of choice for peptic ulcer. As often happens with many enterprises of this nature, introduced with such enthusiasm, the operation was soon applied so indiscriminately that "gastric

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The Mayo Foundation, Rochester, Minnesota, is a part of the Graduate School of the University of Minnesota.

crippling" resulted in some cases, accompanied by perhaps unwarranted morbidity and hospital mortality rates.

Thus it was that directly after World War II Dragstedt's reawakening of our interest in vagotomy was taken up with considerable enthusiasm. Unfortunately, large numbers of patients experienced most undesirable side effects after vagotomy had been used as the sole procedure, and considerable confusion resulted. Since that time the profession has accumulated a tremendous fund of really basic knowledge concerning the physiology of gastric secretion and the alterations to be expected after the performance of certain surgical procedures, many of which include vagotomy only as a portion of the operation.

Obviously, the lack of complete agreement throughout American centers today on the question of an ideal procedure tends to discourage adoption of a standard operation for peptic ulcer, and emphasizes the disadvantages that are apparent in all methods. It is surprising, in fact, to reflect that even today we are short of our goal of exact knowledge concerning the causation of peptic ulcer, in spite of concerted efforts being carried on in outstanding laboratories throughout the country.

Duodenal Ulcer

We are still convinced that most duodenal ulcers present a medical problem only. The surgeon should be called in only when the ulcer cannot be controlled by conservative means. We still adhere rigidly to classic criteria in selecting surgical treatment for duodenal ulcer, and operate only when the condition is complicated. The result of this policy is that surgical treatment is employed each year for perhaps 15 per cent of those patients in whom a diagnosis of duodenal ulcer is proved.

The objective of the surgical treatment of duodenal ulcer is simply an extension or expansion of that previously sought in medical treatment, namely, permanent control of the acid-pepsin factors. Perhaps too much emphasis had been placed in the earlier experimental work upon the acid factor alone, but current investigations, especially at the University of Minnesota, are dealing with the pepsin factor also, so that perhaps the net result will be closer to the truth in regard to causation. The ease with which the acid factor can be measured perhaps placed undue emphasis upon that factor as a diagnostic criterion. The exact location of the acid cells throughout the gastric mucosa is now well known, and the function of the nerve supply of the stomach and the relation of the nerve supply to the various phases of the gastric secretory cycle is rather clear cut. There now is no longer any doubt of the importance of hormonal factors in the genesis of duodenal ulcers, and we refer here especially to the antrum of the stomach. We debate removal of the antrum as opposed to retention of this structure in attempting to assess the value of the operative attack.

Several operations are available to us, so that we have only to make a choice. Yet we must make this choice in respect to each patient, remembering that the gastric secretory mechanism of this patient may differ from that of the experimental animal, but keeping uppermost in mind the fact that we are dealing with a human being who is beset by trials and tribulations peculiar only to him, and that these stresses and tensions influence dramatically the pattern of his gastric secretion, frequently with dire consequences. At the Mayo Clinic we feel that we have taken a reasonable stand in regard to the manner in which these patients are treated, and we are prepared to defend this stand, realizing full well that others may have a somewhat different viewpoint.

Selection of the Operation.—Being fully aware of the many operations available to us and the experimental evidence which has led to adoption of these operations, we make every effort to individualize the treatment. Thus, patients of certain races with inherently excitable personalities and those known to live in

environments characterized by constant tension and excitement will require a much more radical operation than will the placid undisturbed person. Likewise, although duodenal ulcer is encountered in our experience more frequently among men than among women, when we do encounter this lesion in a woman we are aware that a relatively more complicated situation exists, one which may call for a somewhat different approach. Then, too, the extremely elderly patient, typical of those being seen more and more often today, whose only problem is one of obstruction because of stenosis of the duodenum on the basis of an old "burned-out" duodenal ulcer (whose gastric content exhibits consistently low values for free acid), will present an entirely different problem to us than the youthful, extremely active, vigorous person just entering the threshhold of his career.

The life work of the patient will certainly interest us. The work of the executive type who spends long hours in the office but is able at any time to resort to the typical glass of milk between meals, supplemented by powders and various preparations, certainly will differ from the work of the laboring man who has no control over his working hours, rest periods and timing of feedings between meals. The amount of free hydrochloric acid within the gastric contents has a profound effect upon our decision between an extremely radical or a more conservative surgical attack.

Less important facts are the secondary ones, such as severe secondary gastritis, marked distortion of the duodenum and the presence of more than one duodenal ulcer. Yet these secondary factors will affect our decision in a very definite way. It is only natural that the surgeon, after thorough examination of his patient, will consider possible postoperative complications which cannot help but play a considerable role in decision as to the indicated operation. The tall, slender, muscular person may well be an ideal candidate for a certain operation which might be attempted only at the risk of extreme surgical trauma and considerable frustration upon a short, obese, thick-set person, who might be expected to undergo anesthesia with considerable difficulty and to present marked technical problems.

What Operation Do We Employ? *Vagotomy Combined With Some Form of Drainage Operation.*—We soon learned to abandon vagotomy as the sole procedure for duodenal ulcer, since the postoperative difficulty with gastric stasis became such an unbearable problem for so many patients that the possible benefits of the operation were badly outweighed by the complications it produced. Hence, it was logical that the next suggestion should be that of vagotomy combined with some type of drainage operation to eliminate the problem of stasis. Thus, pyloroplasty combined with vagotomy attained considerable favor in many parts of this country and the reports of the combination were encouraging. Perhaps we have been unduly influenced by the marked anatomic distortion which the complicated duodenal ulcer produces, a distortion which has tended to lead us away from any surgical manipulation in such a dangerous-looking field, with the result that we have had little experience with pyloroplasty. In addition, should the vagotomy be less than perfect, a rather high incidence of recurrence of the ulcer process would be expected. At present we are less than enthusiastic about pyloroplasty and vagotomy, except in certain highly selected instances.

Gastroenterostomy With Vagotomy.—We agree that this procedure is a satisfactory one, and we continue to employ it in a small proportion of cases. In reviewing the records of operations done at our institution in early years, when gastroenterostomy alone was performed, we were impressed by the large numbers of patients who underwent the operation and who are living normal lives with no complications. We would expect this number to be increased if vagotomy were added to the operation, and it appears that this is in fact true. Still, we remind ourselves that in many patients who have

marginal ulcers secondary difficulty develops many years after the original operation, and hence it is unwise to form a premature conclusion simply on the basis that vagotomy has been added to gastroenterostomy. At present we use gastroenterostomy with vagotomy in three separate categories of problems.

In the first group are those patients for whom we decide at the operating table that gastric resection would be fraught with prohibitive technical danger. Such a danger certainly exists in the presence of extreme obesity, especially when there are marked inflammatory changes throughout the right upper abdominal quadrant and a woody mass in the head of the pancreas. When such a condition is at hand division of the duodenum below this area would almost certainly lead to extreme difficulty with the pancreas and its ducts, the common bile duct or even the hepatic artery. Other technical factors will predominate in postoperative situations, meaning among those patients who have undergone surgical procedures previously in the right upper abdominal quadrant, perhaps following or being followed by peritonitis, so that the degree of adhesive reaction is so advanced that proper performance of gastric resection would be out of the question.

The nutritional status of the patient is the criterion setting off the second group of patients. Some patients with duodenal ulcer are hearty eaters and present no problem, but we are wary of the haunted-looking, consistently underweight, worried-appearing patient who obviously chooses only a few items from a well-balanced diet and whom we certainly can expect to be beset with problems which will continue after the operation. We can scarcely expect such a person to accept a normal diet if his stomach has been reduced drastically in size, even under the best of circumstances. For these rather obvious reasons we hesitate to impose radical gastric resection upon a patient of this kind because the resultant "dumping syndrome" and the permanent malnutrition would be testimony to our folly. We have the distinct impression that gastroenterostomy with vagotomy in instances of this second category will preserve the normal food reservoir and lead to much less nutritional disturbance later, although we all know that the "dumping syndrome" can follow even the most conservative gastric operation.

The final category of the three I mentioned is a very small one composed of the geriatric patients whose only problem with duodenal ulcer is obstruction. Usually free acid in the gastric contents of such persons will be very low, and the only purpose of the operation is to relieve this obstruction. Gastroenterostomy will achieve this objective very satisfactorily. We will then add vagotomy as a protection against gastrojejunal ulceration, even though the life expectancy of the patient may seem too short to permit such ulceration to develop.

Modified Gastric Resection. — Under this heading must be mentioned tubular resection, segmental resection of the midportion of the stomach, with or without vagotomy (usually including pyloroplasty) and other less common but equally interesting variations. Many of these procedures actually are old operations appearing in a new form, and they are still being carried out more by way of experiment than for any practical reasons. We do know that the mortality rates associated with these measures remain at least as high as the mortality rate of the standard resection, and we do not believe that the results are in any way preferable to those of the standard operation. We have very little firsthand knowledge of these interesting modifications of the standard gastric resection and are in no position to be critical of them.

Gastric Resection.—At the Mayo Clinic surgeons still prefer gastric resection as most satisfactory for a large group of patients. We find that we can control the acid-pepsin factor quite satisfactorily with the operation. We also eliminate hormonal control of secretion by complete removal of the antrum. The cephalic phase of gastric secretion remains unal-

tered. Since the retained portion of stomach is that part which is rather lacking in acid cells and since highly alkaline content is being delivered constantly into this gastric remnant, it would be expected that a rather ideal situation would eventuate in respect to control of ulceration. That control is neither perfect nor permanent in all cases is obvious to the most casual observer.

At first we were somewhat dogmatic about removal of three fourths of the stomach, and most often we insisted upon performance of a posterior type of anastomosis. We felt that the shortest loop possible would utilize that part of jejunum known to be most resistant to recurrent ulceration. We also felt that the avoidance of any back pressure in the proximal jejunal loop, such pressure being theoretically best avoided by employment of a short proximal segment, would lead to much less disruption of the duodenal stump. Our experience demonstrates that the greatest single cause of disruption of the stump is the increased intraluminal pressure in the proximal loop. However, enough of our group have performed a sufficient number of anterior anastomoses with a somewhat longer proximal loop to suggest to us that perhaps we were too dogmatic in our earlier conclusions. In fact, we too use the anterior method in obese patients and others with a short, thick mesocolon, where the posterior method might not only be dangerous but extremely difficult.

Frequently we are asked, "Do you feel it necessary to remove every duodenal ulcer in your resections?"

We have long held that routine removal of such lesions would lead to dire consequences. Actually, our mission in resection is to produce profound alteration in the patient's physiology. We are operating for the ulcer diathesis and not simply to eradicate a temporary anatomic lesion. We do remove the ulcer when we can do so safely but, should we be faced with the danger of extreme trauma to neighboring vital structures, we would not hesitate to close the stump proximal to the ulcer itself, once the antrum and pylorus have been excised. We are firmly convinced that this is satisfactory, and we have not thought that the procedure has been inadequate in any way when we have settled upon this method.

At present our group prefers gastric resection which removes approximately two thirds of the stomach. I personally close the lesser curvature after the manner of Hofmeister, because this enables me to remove all or most of the lesser curvature, incidentally taking out more of the acid cells. Technically, once the lesser curvature is closed, the anastomosis itself can be carried out within the abdominal wound rather than at an extremely high level where exposure might be difficult if the full gastric width were employed. Also, a narrow anastomosis results, which we are told will produce less of a chance that the dumping syndrome will arise. In analyzing our annual reports for the last several years, we have been struck by the fact that 86 percent of the operations for duodenal ulcer are now gastric resections, and that they have been performed with a mortality rate varying between 1 and 1.8 per cent during these several years. Coincident with this has been the continuing reduction in morbidity rates, so that many patients are dismissed from the hospital in approximately a week. All of us have abandoned our early reluctance to employ abdominal drainage for these patients, and are quite willing to accept relatively routine use of a soft Penrose drain in the area of the duodenal stump, usually leading the drain out of the abdominal wall through a separate stab wound. Although the incidence of leakage from the stump remains extremely low in our series, we find that the presence of such a drain can convert what might have been a catastrophe into simply a nuisance problem, which can be controlled conservatively.

Vagotomy With Hemigastrectomy.—My colleague, Dr. George A. Hallenbeck, and I decided two years ago to engage in a concurrent analysis of a small series of

patients treated by vagotomy with hemigastrectomy. We had been impressed by reports of the use of the procedure from other institutions, and we are now selecting those patients who give us some concern preoperatively from the standpoint of nutrition. We have felt that the ulcer diathesis of such persons is too great to be settled by simple vagotomy plus gastroenterostomy, and hence have proceeded with hemigastrectomy and vagotomy. This maneuver eradicates the gastric antrum entirely, an action which we have felt is imperative when the patient is bleeding acutely or when there has been recent hemorrhage. Very often, in those patients, the ulcer can be removed completely with relative ease. We plan to extend the study for five years before we reach any final conclusion, but at present we anticipate that the nutritional problem will be minimized.

Billroth I Operation.—We are not using the Billroth I operation very extensively for duodenal ulcer. First of all, we feel that the complicated ulcer presents so much distortion of the wall of the bowel that a safe anastomosis appears out of the question. Moreover, assurance of the constant regurgitation of alkaline content into the gastric remnant is not so certain after the Billroth I procedure as it is when the Billroth II operation has been used, and it is a matter of record that recurrent ulceration is more common after the Billroth I operation, both in our experience and in that of others. When we do employ the Billroth I procedure, it is usually done for a very elderly patient in whom we wish to minimize surgical trauma as much as possible or for those patients with acutely perforated duodenal ulcer, a situation in which we feel that resection is justifiable. When gastrojejunal ulcer is the diagnosis, the task involved is to take down the old stoma and to perform resection or at least repair of the jejunum. Thus the surgeon is faced with rather a major procedure in resection of the stomach. In such a situation we frequently are inclined to employ the Billroth I method of reconstruction, since the original duodenal ulcer may have disappeared during the intervening years. However, we keep in mind the fact that control of the diathesis may be somewhat less complete for reasons mentioned above.

Why Not Vagotomy Plus Anastomosis in Every Case?—This question arises frequently, for everyone is aware of the reports of excellent results from this combination of procedures. Yet, in analyzing our own annual reports we discover that the morbidity and mortality rates associated with this operation are at least as high as those accompanying gastric resection. Furthermore, the problem of gastric motility, admittedly less common than previously, still lurks in the background, and if it develops, the unpleasant symptoms will lead to a very unhappy patient. Then, too, we have found that the recurrence of ulcerative disease varies between 7 and 15 per cent; we feel that this percentage is too high to warrant adoption of the combined operation as a standard procedure. In analyzing such reports we sound the caution that those who will use gastroenterostomy and vagotomy as their only operation should bear in mind that the early enthusiasts for gastroenterostomy alone did not discover that marginal ulceration developed in some of the patients until ten to fifteen years had gone by. For the above reasons, then, all of us still prefer gastric resection when feasible.

Gastric Ulcer

There should no longer be any question that the prime treatment for gastric ulcer is surgical. We realize that certain acute gastric ulcers in some persons will be seen to heal very promptly, and of course we do not operate upon every such ulcer detected in roentgenograms. However, the constant concern as to whether a given ulcer may become malignant is rightly alarming the entire profession at present. The people we worry about considerably are those who have been treated for prolonged intervals by what has been considered to be the best medical manage-

ment, but who return at a later date with cancer of the stomach. If our results after the surgical treatment of gastric ulcer were questionable or equivocal, we might be somewhat hesitant to operate for this lesion, but results of medical management in general are unconvincing, and results of surgical removal of the ulcer are so good, that we do not hesitate to urge the overwhelming majority of such patients to undergo operation. We are pleased to see that our gastroenterologist colleagues share this attitude. We have found the risk of operation to be less than 2 per cent.

What Operation Do We Employ for Gastric Ulcer? *The Billroth I Operation.*— Being aware of the large number of discussions in recent years concerning this operation and the various pros and cons, we still feel that benign gastric ulcer is very well treated by the Billroth I operation. Certain opponents will claim the operation is not radical enough, and that we are attempting to minimize the resection in order to make the stomach join the duodenum without tension. They feel that the recurrence rate will be too high, but our experience does not bear this out in any regard.

We are careful not to select the type of anastomosis to be used until the specimen-bearing portion of the stomach has been removed and then, if there is any question about tension, we abandon all thought of a Billroth I procedure. We carry out a procedure that is just as radical in extent of resection as is any method. Since our current mortality rate is less than 2 per cent, we consider this method satisfactory on this basis alone. I, personally, ordinarily close the lesser curvature after the manner of Schoemaker, so that the entire lesser curvature can be excised, preserving a greater or lesser extent of the greater curvature, as the situation may require.

There are numerous clear-cut advantages to this operation. First is the quite normal state in which we leave the gastric and intestinal relationships. Since an end-to-end union is carried out, we would expect a more normal physiologic state to follow, because the food becomes mixed with bile and intestinal juices at a practically normal point. Technically, the surgeon has no cause to worry about a duodenal stump, nor is he pressed to decide about an anterior versus a posterior anastomosis. From the standpoint of surgical intervention and trauma, it would appear that the Billroth I method produces less trauma than any other method, and elderly patients seem to tolerate it well. In addition, other lesions within the abdomen can be treated at the same stage, since so much less trauma has been imposed that the diseased gallbladder or spleen or portions of the pancreas or the like can be attacked with less concern for the possibility of excessive trauma. We have noticed that postoperatively the occurrence of the dumping syndrome is reduced and that nutritional disturbance is less prolonged. Analysis of the stools of these patients for loss of fat and nitrogenous products show that loss of this type is less after use of this method than after any other has been carried out.

The Billroth II Procedure. — The Billroth II operation actually involves a broad category of operations which are largely the same as those carried out for duodenal ulcer. When a patient is heavy, thick-set and obese, we commonly employ some modification of a transverse incision which actually may be a bilateral subcostal approach. This provides better exposure both during closure of the duodenal stump and during creation of the anastomosis itself. This modification may mean that the surgical procedure is lengthier, but we have not encountered any insurmountable difficulty in the operation. The patient seems more comfortable postoperatively when this modification is used, and it would appear that the formation of hernia is less common. The extent to which resection of the stomach will be carried is decided for each patient. We feel that a three-quarters resection is too radical for the average gastric ulcer, because the acid-peptic factor

is not so prominent in respect to gastric ulcer as it is in duodenal ulcer.

Simple Excision of Gastric Ulcer.—Very occasionally we excise a gastric ulcer, repairing that portion of the stomach concerned and performing gastroenterostomy. We maintain that the pathologist should be the one to decide the true nature of any gastric ulcer. Once the ulcer is excised, and if it proves to be benign, we are satisfied to perform a conservative operation, especially in very old or debilitated patients. We find simple excision useful, also, in the treatment of juxta-esophageal ulcer, radical resection of which would call for total gastrectomy which we would not wish to do for benign disease. We do not believe that simple excision of the ulcer itself is adequate, since disturbance of either curvature of the stomach is known to result in a serious problem affecting motility. Moreover, there is good reason to believe that gastroenterostomy will prevent the development of further ulceration.

Prophylactic Distal Resection.—Certain surgeons have suggested resection of the distal portion of the stomach for those juxta-esophageal and other high-lying ulcers which cannot be resected without performance of virtual total gastrectomy. In such a situation the surgeon must assume that the ulcer is not malignant and that resection of the lower portion of the stomach will lead to healing of the ulcer. It is now well known that after distal gastric resection most of these ulcers will heal if they are benign, but we still greatly prefer to excise the ulcer so that the pathologist may make the diagnosis. Our experience with such an operation is extremely limited, at best.

Gastric Ulcer: Results of Surgical Treatment.—As noted above, the morbidity and mortality rates which accompany the surgical management of gastric ulcer are extremely satisfactory. The patients usually recover quickly and are free of their symptoms at once. Permanent control of the ulcer diathesis is likely, since true recurrent gastric ulceration should not take place in more than 2 to 3 per cent of patients operated upon. Fortunately, the occurrence of the dumping syndrome is very rare among patients undergoing resection for gastric ulcer, a fact which sets this lesion well apart from duodenal ulcer. In the latter group, for some strange and thus far unexplained reason, nutritional problems are likely to be more severe. These factors have led us to conclude that gastric ulcer is largely a surgical disease, and that attempts at prolonged medical management as employed in the past have become largely obsolete.

Gastrojejunal Ulcer

We continue to encounter gastrojejunal ulcers occasionally, although since gastroenterostomy alone has been abandoned the incidence of this lesion is considerably lower. Unfortunately, we do see an occasional patient who has undergone what has seemed to be a sufficiently radical resection who later returns with ulceration at the site of anastomosis. Since this situation still prevails, we might summarize our current thinking as follows:

Marginal Ulcer Which Follows Simple Gastroenterostomy.—For this type of lesion we ordinarily proceed with what we think is an adequate gastric resection. This enables us to determine exactly what the nature of the lesion is and permits immediate removal of the ulcer. Our results continue to be satisfactory, with a surprisingly low mortality rate, which for some reason is lower than that frequently accompanying operations performed only for duodenal ulcer.

Marginal Ulcer Which Follows Gastric Resection.—Faced with this type of lesion, we must determine just what was done at the first operation. If it appears that resection was inadequate the first time, we proceed with a second gastric resection. In such an instance, again, we can determine exactly what the nature of the lesion is and remove it. In addition, we can examine the duodenal stump to be certain that none of the gastric antrum was preserved at the first operation.

If that segment was retained, removal is definitely indicated.

Gastrojejunal Ulcer Which Develops Despite Apparently Adequate Initial Resection. — When this type of lesion is found we are often willing to perform vagotomy alone, for when this is done for such a condition the result is often dramatic. Pain will disappear immediately and healing of the marginal ulcer may take place rather quickly. However, we may prefer the abdominal approach, so that proper examination of all the abdominal contents will be possible. If there has been extreme reaction within the peritoneal cavity, so that complete and perfect vagotomy might not be expected, we are more inclined to perform the vagotomy via the transthoracic route.

Peptic Ulcer Associated With Adenoma of the Pancreas.— We are very much interested in current reports of the surgical treatment of this lesion, as are all surgeons who deal with the problem. Our personal series of such cases is sharply limited, although we have encountered several such adenomas. In speaking with Zollinger [2] we reached the conclusion that the indications are clear that we must carry out a forceful attack upon the ulcer process itself, and not be satisfied with simple removal of the pancreatic tumor. We have wondered whether such adenomas might be coincidental, since Zollinger cites several instances in which total gastrectomy finally was required for what developed as a benign duodenal ulcer, only to have the problem of the recurring marginal ulcer become so acute that there was no alternative to the total operation. Total gastrectomy was necessary in such instances, even though the pancreatic tumors had been removed. The extreme is represented by one patient of Zollinger who has undergone not only total gastrectomy but also total pancreatectomy.

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Proceedings of the National Medical Convention, Held in New York, May, 1846, and in Philadelphia, May, 1847

We have at length received the proceedings of the great National Medical Association. The business brought before the body during its Convention is of the highest interest to the profession throughout the United States; and we trust, that as almost every section of our widely extended country was ably represented in that body, all who claim an interest in, or belong to the profession, will do their utmost to carry out the views and suggestions of the Convention.

This is but the beginning of a great reform, we trust, which is to regenerate and elevate medicine in the estimation of civilized man.

We regard this Convention as destined, if continued in the proper spirit, to do more for the elevation of the profession than all the legislation in the country. Let us protect ourselves.

New Orleans M. & S. J. 4:231 (September) 1847.

Current or Changing Concepts in Anticholinergic Therapy In Duodenal Ulcer*

• He that will not apply new remedies must expect new evils—Bacon

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WITH the concept that gastric hypersecretion in patients with duodenal ulcer was primarily or solely cholinergically induced and that a medical vagotomy was achievable by anticholinergics, the introduction of this therapeutic agent was hypothesized to be the solution to the problem of duodenal ulcer.[1, 2] After a period of unwarranted enthusiasm, experience and study encouraged acceptance of these agents as a valuable adjunct in the over-all management of the patients with duodenal ulcer.[3]

Selection of Agents on an Individual Basis

Many modified and newer agents have since been introduced, and in many instances evaluated and prematurely endorsed, without proper emphasis on adequate dosage, estimate of duration of action, and time of administration, all of which factors influence the maximal therapeutic potential of each agent toward achieving quiescence of the ulcer, healing, and prevention of recurrence and complication.[4]

The number of new anticholinergics that became available, their combination with barbiturates and tranquilizers, modification to enhance duration of action, and synthesis of inherently sustained-action agents have created some confusion regarding the selection and proper use of anticholinergics in an adequate ulcer program. Reports of comparative studies involving conflicting opinions regarding efficacy necessarily influence the thinking of the practicing therapist. The logic of achieving, for each drug, an "optimal effective dose" [5] was recognized early in our advocation of tailoring the dosage to the maximum tolerance of the individual patient; somewhere between the two ("optimal effective dose" and individual maximum tolerance) probably exists an effective dose. Further, the requirement should vary with the status of the ulcer, with recognition of contraindication in hemorrhage, perforation, and obstruction. The pyloric or channel ulcer, on the other hand, may require an unusually large dose for effective relief. Obviously, different therapeutic objectives should be established for the healing or quiescent ulcer and for the active acute lesion. The applicability of the anticholinergic to the individual circumstance, and finally, the dosage requirement to achieve the desired effect should be determined individually.

Mechanism of Vagal Influence

A brief review of the anticholinergic-influenced component of gastric motor and secretory activity is essential to consideration of the potential of these agents in the management of ulcer. With such understanding, the significance of neurogenic or vagal inhibition can be adequately rationalized in the control of a portion

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of the gastric hypersecretion and hypermotility common to duodenal ulcer.

With the revival of surgical vagotomy, vagal influence on gastric motility and secretion in human beings has become more clearly understood. Vagal section reduced gastric tonus, motility, and secretion. The medical equivalent, adequate anticholinergic therapy, creates the same effect, but less dramatically and only proportionate to the efficacy of the mode of administration and the adequacy of dosage.

The motor function of the stomach is apparently threefold. The fundus is a receptive relaxor, permitting gastric distention without increased intragastric pressure. The pyloric segment conditions the gastric content by a churning peristalsis. The pyloric sphincter, proper, regulates gastric emptying. Vagal blocking interrupts, in varying degrees, all such activity other than that gastrically inherent in the intramural plexus.

Whereas the exact mechanism of anticholinergics on gastric secretion is not entirely clarified, certain phases of gastric secretion come under vagal influence. These are probably limited to the emotogenic or cephalic portion of the digestive and interdigestive periods. Indirectly, by inhibition of motility, altered gastric distention and retention, and directly, by surface anesthesia inherent in some compounds and by inhibition of the vagal component of gastrin release, there may be influences on the gastric phase (gastrin). The possibly spontaneous, continuous secretory phase of the interdigestive period and the probable hormonal or enzymatic gastric phase of the digestive period, are not as conclusively under vagal influence of consequence.

This overly simplified and incomplete explanation permits some rationalization for seeking anticholinergic vagal inhibition and recognition of obvious voids in their influence during management of certain hypermotility and hypersecretory phases of duodenal ulcer. Further inconsistencies in their influence are demonstrable in their inability to control completely the response to sham feeding or to insulin hypoglycemia. The partial but inconsistent control of histamine and of distention, however, supports the concept of influence of responsiveness of the parietal cells to hormonal and chemical stimuli.

Some estimate should be made of the extent of anticholinergic influence that is desired. A state of atonicity and achlorhydria may not be necessary or desirable, because of the side effects so common to such intensive therapy.

These introductory remarks were designed to support the concept of anticholinergic therapy, but at the same time indicate the limitations inherent in the control of the complex mechanism of gastric hypersecretion so as to permit a better understanding of why and how these agents should be used. Experience may temper our enthusiasm and improve our accomplishments in management of ulcer as we administer the newer and more complex sustained-action anticholinergics which are, in general, far more complex than the pharmaceutical literature depicts them.

Therapeutic Considerations

The practical therapeutic considerations, therefore, are:

1. Since anticholinergics appear to be most effective against emotogenic-induced secretion, they are best given on an empty stomach, prior to this phase of stimulation and at night to control continuous nocturnal secretion.

2. The quantity must be sufficient to suppress secretion. It must be tailored to the individual patient and can, to a reasonable degree, be estimated by side effects and measurement of influence on basal secretion.

3. The duration of action of the unmodified drugs does not consistently exceed four hours and, therefore, such periodic administration is necessary.

4. Clinical evaluation of an agent on the basis of ulcer response is hazardous and necessitates comparable controls, prolonged re-examination (beyond twelve months), and consideration of the natural

history of the peptic ulcer, which may often respond either spontaneously or to a therapeutic program.

On the basis of such observations, most of the presently recognized anticholinergics, when used in adequate quantity, are effective adjuncts to management of ulcer. Pertinent to these and other reports on analysis are conflicting and inconclusive opinions,[6] which have resulted in continued effort to produce a more effective modification of these agents. An accomplishment in this respect has been first, the modification of the drug to achieve sustained-action and, more recently, the synthesis of agents which inherently had prolonged action.

Delayed or Sustained Action Anticholinergies

The issue of current interest in anticholinergic therapy is, therefore, an evaluation of the sustained-action of the modified, presently available anticholinergics and of the newer inherently prolonged-action synthetic anticholinergics. Whereas parenteral forms of most preparations are available, we have adhered to the opinion that only orally administered agents are of practical value in the uncomplicated ulcer program, since all such regimens should be viewed as long-term management problems.

The psychologic desirability of less frequent administration and the physiologic advantage of more constant control of vagally stimulated gastric secretion are recognized. Prolonged consistent control of gastric secretion is the objective of most ulcer programs. Resultant healing or quiescence is perpetuated by continuation of the program over a period of months, perhaps years. Essential to such a regimen is normalization of psychologic and physiologic reaction.

Among the modes of achieving sustained, delayed, or gradual release of an anticholinergic has been the use of resistant coatings (fats, fatty acids, waxes, gums, shellacs, glycerine esters), a series of drug layers, multisized fat-coated granules, adsorption on an ion exchange resin, and impregnation into a plastic matrix. On *in vitro* study, such prolonged-action preparations release portions immediately and at timed intervals throughout periods of eight to twelve hours. The therapeutic requirement can, therefore, be administered at fixed, infrequent intervals for estimated constant action. Human variables of secretion and motility, whose influence on orally administered, unmodified products is already recognized, are obviously applicable to the sustained-action agent, which, when rendered available, may have reached sites where motility, secretion, and mucosal surfaces do not favor absorption. If the contention that the "physiologic availability" [7, 8] of an agent is dependent on a disintegrating time of less than sixty minutes, the products under discussion represent only a frustrated transport to the fecal stream.

Among the anticholinergic agents in this category of delayed or sustained-action that have been available to us for evaluation are Prantal Repetabs®, Tral Gradumets®, Prydon Spansules®, Piptal Sustained Release Core®.* In clinical evaluation of these agents, side effects or suppression of salivation have not been proportionate to the quantity of the agent contained therein, indicating restriction of available anticholinergic initially. Definite but extremely variable evidence of secretory and motor influence, along with side effects indicative of delayed release and availability of the drug, as well as salivary suppression beyond the period of unmodified drug activity of a single total dose in the same patients when used as their own controls was observed. Prolonged but widely variable duration of action, definitely less than that anticipated, proved characteristic. Inability to reproduce these findings in the same patients on repetition of study suggests that variations are to be expected not only from patient to patient, but also in the same

* Prantal Repetabs®: Schering Corporation
Tral Gradumets®: Abbott Laboratories
Prydon Spansules®: Smith, Kline & French
Piptal Sustained Release Core®: Lakeside Laboratories

patient under normally varying circumstances of secretion and motility.

Because availability by required disintegration was considered the issue of importance, we have welcomed the opportunity to evaluate inherently long-acting anticholinergics. Among these newer agents is oxyphencyclimine hydrochloride,† one of the new series of substituted phenylacetic acids containing "nonquaternized" tertiary amines with definite parasympatholytic and antisecretory activity.[9] This agent, available to us for clinical evaluation since 1957, has shown pronounced antispasmodic and antisecretory properties paralleling Pro-banthine®, Pamin®, and Tral®. Its onset of action is more insidious and, its side effects are, therefore, less obvious but action is definitely more prolonged, persisting beyond twelve hours. Because of insidiousness of onset and prolonged action, an unusual tolerance was mistakenly judged in our earlier observations when side effects were not closely correlated with the time of administration of the drug but were delayed by six to ten hours. This rendered single dose studies of secretion and motility, as well as optimal effective dose, difficult to evaluate and caused considerable confusion and delay in evaluation of the drug, since tailoring the maximal effective dose to each patient required observation of side effects over a trial period of two weeks.

Further initial secretory and motility studies carried out thirty minutes after administration yielded only minimal influence. Only upon discovering the maximal action at six to eight hours after administration could our estimate of dosage be made.

In our early evaluations, studies were made at fifteen-minute intervals over a period of two hours. The influence on basal secretion during the eleventh and twelfth hours after administration of the agent was evaluated.[10] These studies, however, were done with what is now considered an excessive dose, 100 mg.; later observation proved this dose to be impractical because of side effects. During this early period, it was our impression that the potency of certain lots of the trial drug probably varied. When the product was, in our opinion, more stabilized in potency, considerable readjustment in dosage was necessary. Thereafter, we tailored our dose in each lot to the maximal tolerated dosage and found this to vary from 10 to 30 mg. at intervals of ten to twelve hours; the average adult patient with duodenal ulcer in the third and fourth decades tolerated 25 mg. at twelve hour intervals with overlap of secretory, motility, and side effects.

On tailored dosage to individual tolerance, we have repeated secretory observations in 15 patients with duodenal ulcer and hypersecretion on three occasions at five-day intervals beyond the control. Fairly consistent and comparable suppression in pH, acid output, and concentration were observed in two-hour studies, ten hours after administration. Seven of the patients gave achlorhydric samples throughout all three test periods. In 6, secretory suppression was beyond 50 per cent. In the remaining 2, the degree of secretory influence was not considered significant. When histalog was given at the termination of the initial two-hour study, comparable control acid output was restored in 5 of the 7 achlorhydric patients studied and better than 50 per cent sustained acid suppression in only 2 patients.

During our observation, 4 patients with duodenal ulcer hospitalized for acute duodenal obstruction were available for continuous twenty-four hour secretory study. After satisfactory recovery from obstruction, on the fourth day each was given 30 mg. by intragastric tube at twelve hour intervals, with aspiration delayed for one hour after administration. All 4 of the control hyperchlorhydric patients were rendered achlorhydric during the test period.

With sustained antisecretory influence established, we then began clinical evalu-

† S1-1236 (Daricon®) was furnished for this study by Dr. Kenneth J. Dumas, Department of Clinical Research, Chas. Pfizer & Company, Inc.

ation in management of uncomplicated duodenal ulcer, adding S1-1236 to routine ambulatory management in 36 patients who had satisfactory secretory response to the agent beyond twelve months. All have been given the agent at twelve-hour intervals. The individual dose varied from 10 mg. to 30 mg., depending on side effects, influence on basal secretion, and evidence of inhibited motility. Basal secretory studies and roentgenographic reevaluation have been repeated at the sixth and twelfth months.

Results

All 36 patients became asymptomatic within the first forty-four days of treatment; 29 have remained symptom-free. Three patients have had recurrent symptoms of ulcer on more than two occasions, and 4 have each experienced one recurrent episode. There have been no complications.

On roentgenographic evaluation, the ulcer crater has healed, with minimal residual deformity, at six months and remained so on twelve-month study in 24 patients. In 5 patients, neither ulcer crater nor deformity was demonstrable on either examination. In 4 patients, the ulcer crater was still present at six months but had healed with minimal deformity at twelve months. In 3 patients, the ulcer defect remained essentially unchanged at both these examinations.

In our opinion, reproduction of roentgenograms to illustrate our results is valueless. The inference that the anticholinergic was directly responsible for the healing is not justifiable, just as the agent cannot be condemned for lack of healing in certain cases. Case studies have demonstrated healing on bed rest alone, or antacid therapy, or other supportive measures.

All 36 patients, on each periodic observation, exhibited definite motility influence, delayed gastric emptying, sluggish gastric peristalsis, duodenal widening and prolonged gastro-cecal transit time. Basal secretory studies in all individuals at the six-month interval showed sustained secretory suppression well below the accepted normal limits, with achlorhydric samples in 21 instances. The findings were almost duplicated at twelve months; only 1 patient had secretion beyond the normal level, and 23 had achlorhydric samples.

There is reason to question the necessity or desirability to create medically prolonged periods of achlorhydria. A normal range of free hydrochloric acid after healing would probably be adequate to assist in sustaining healing.

None of the 7 patients with recurrent difficulty had symptoms of active ulcer at the testing periods. All 7 showed secretions within normal range.

Darbid®, also an inherently prolonged-action agent which became commercially available during this period of study, has been reported to have comparably prolonged secretory influence in an interesting correlation of salivary and gastric secretory inhibition.[11] Our observations with Darbid® do not extend beyond six months. In a limited evaluation in 6 patients, the same patients being used as controls, Daricon® and Darbid®, each when tailored to the patient's requirement, have been judged to be comparable in onset of action (within sixty minutes of administration, the desirable interval of disintegration), manifested by the usual anticholinergic side effects and effective in suppressing gastric secretion and motility for prolonged periods, seven to twelve hours for Daricon® and five to nine hours for Darbid®.

Duration of action is inherent in these two agents. Reese and associates,[12] discussing Daricon®, suggest one or more factors responsible: chemical structure, rate of absorption. rate of degradation and excretion, concentration in and affinity for certain tissues, and rate at which physiologic antagonists are formed at its site(s) of action. Whereas the factor or factors responsible for the duration of action of Daricon® and Darbid® have not yet been disclosed, they conclusively represent a new mode of prolonged-action anticholinergic therapy.

With the achievement of sustained therapeutic action is associated the concomitancy of prolonged side effects, which in anticholinergic-sensitive patients is a source of considerable concern. Additionally, estimating dosage is more difficult because of pronounced variability, possible accumulation of dose, and possible tolerance. In altering gastric secretion effectively and in emptying, the agent may concomitantly undergo a change in its own absorption and thereby further complicate dosage and gastric stimulation.

Conclusions

1. The average therapist should select an effective anticholinergic after a study of his patients' individual requirements, including tailored dosage, periodicity of administration, and duration of therapy.

2. In most instances of uncomplicated duodenal ulcer, a sustained-action product will probably be a definite adjunct for the control of nocturnal secretion and, in many instances, of diurnal secretion.

3. Daricon® has proved to be an excellent sustained-action anticholinergic in our study of this agent over a period of eighteen months.

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Historical Notes

Since the commencement of warm weather, a few cases of *coup de soleil* have occurred; and as the summer advances and the heat increases, we expect the mortality from this cause to become greater.

If, as some political philosophers assert, population constitutes the wealth of a nation, it then becomes the sacred duty of those in authority to use every precaution—to adopt the most efficient means to protect the public against the ravages of fatal epidemics.

Impressed, no doubt, with these considerations, Alderman Smith of the Second Municipality, with his well known promptitude and philanthropy, has already brought before the Council, a proposition to have moored along the Mississippi a number of baths for the accommodation of the public at large. This is an important measure, and will no doubt add materially to the comfort, cleanliness, and health of the laboring and poorer class of our population.

New Orleans M. & S. J. 5:131 (July) 1848.

Vulvar Clinic at Tulane*

• A special clinic for the study and treatment of benign and malignant diseases of the vulva, at Tulane University, during the two years of its existence, has proved to be of great value.

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THE Vulvar Clinic at Tulane was started in March 1957, by the Department of Obstetrics and Gynecology. The desirability of this special clinic arose out of particular interest in vulvar lesions and the availability of a wealth of clinical material with which to work. It was felt that concentration of interest and resultant thoroughness in study and care of these patients would be rewarded by superior results. Accordingly, one entire morning of each week was set aside for the vulvar clinic.

Cooperation from the Tulane Dermatology Department was enlisted from the start. In addition to the staff and residents of the Department of Obstetrics and Gynecology, consultation personnel from the Dermatology Department are present at each clinic session. This joint effort has been particularly fruitful because of the numerous diseases involving not only the skin of the vulva but of other areas of the body as well. This also has provided excellent interchange of diagnostic techniques, knowledge, and therapeutic armementarium. Naturally, the patients benefit from this immediate consultation and are spared the necessity of repeated visits to a number of various clinics before relief of symptoms is afforded.

There are a number of clinical and research laboratories whose services are available in solving the numerous vulvar problems seen. The Obstetric and Gynecologic Research Laboratory provides steroid and other endocrine evaluations. The mycology laboratory as well as the laboratory for the study of venereal disease render specific culture and smear evaluation of any suspicious lesion. Multiple studies of all biopsies obtained are performed by the Pathology Department of the University Medical School, and in addition, by the Dermatologic and Gynecologic pathologists.

The residents and fellows in Obstetrics and Gynecology at Tulane are all rotated through the vulvar clinic as an integrated part of their training. This has provided, in concentrated form, an abundance of experience in this phase of gynecology.

In these first two years of activity there have been 220 new patients admitted to the clinic and of course, many revisits (Table 1). The clinic has become a center to which many interesting and perplexing problems of the vulva have been referred. Many of the patients are referred from out of town and even out of

TABLE 1
VULVAR CLINIC AT TULANE
March 7, 1957, to March 7, 1959

New patients admitted	220
Average weekly load	15
No. different entities	47
Follow up vulvectomies	55
malignant 27, benign 28	
New patients for vulvectomy	22
malignant 12, benign 10	
Patients with diabetic vulvitis	63
Patients with active venereal disease	12
Gen. dermatological disease	15

* Presented at the Seventy-ninth Annual Meeting of the Louisiana State Medical Society, in New Orleans, May 6, 1959.

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Aided by a Grant from the Ex-Residents and Fellows Research Fund.

state. Most of our patients, however, are referred from other clinics and services here at the medical center. The average number of patient visits weekly is 15 but varies from 5 to 25. This allows adequate time for considerable discussion of the various phases of interest concerning all of the lesions seen. There have been 54 different disease entities in the new patients admitted to the clinic. However, only 47 represent vulvar problems since 7 were confined to the vagina. This includes vaginal lesions such as vesicovaginal, rectovaginal or ureterovaginal fistulas and vaginal agenesis. One patient was seen with epidermoid carcinoma in an artificial vagina.

The clinic has provided excellent follow-up on 55 of our patients who have had vulvectomy for malignant or benign disease prior to the opening of the vulvar clinic. Twenty-eight of these were operated for benign disease, whereas 27 were operated for malignancy. It has been our good fortune to obtain follow-up on all of the 128 extensive vulvectomies performed on the Tulane Service over the past 13 years. This is, in part, due to the activities of the vulvar clinic.

During these first two years of experience, there have been 22 new patients admitted to the clinic whose lesions required vulvectomy. Twelve of these were for malignancy and 10 were for benign disease (Table 1). Twelve patients presented with active venereal disease and 63 patients were seen with vulvar lesions and diabetes mellitus (Table 1). In 15 instances, the vulvar lesion was the primary or secondary part of a generalized dermatological disorder such as psoriasis, pityriasis rosea, neurodermatitis, secondary lues, and seborrheic keratosis.

Vulvar Survey

In caring for the numerous and varied problems, an extensive vulvar survey is employed (Table 2). The history is particularly contributory in determining any possible allergy to clothing, drugs, cosmetics or soaps. In the general physical examination similar lesions are searched for

TABLE 2
VULVAR SURVEY

History and general physical
Pelvic and wet mount
Culture vagina and vulva
CBC and serology
Darkfield and Frei
Donovan and Ducrey
Urine and stool analysis
Glucose tolerance test
Picture
Biopsy
Metastatic series

on other skin and mucous surfaces. The need for complete pelvic evaluation is obvious. The wet mount examination is performed in any case in which pruritus and leukorrhea are factors. In this way yeast, trichomonas and *Hemophilus vaginalis* are discovered early in the work-up.

Blood dyscrasias are generally found by the blood studies. The patients who have ulcerative lesions are sent to our scraping clinic where investigations for venereal diseases are performed. By these studies we have discovered the presence of active venereal disease in 12 patients, 4 of whom had syphilis with vulvar lesions and 4 each of granuloma inguinale, and lymphopathia venereum. Biopsy of the vulva is liberally resorted to particularly in those patients who manifest a white lesion, ulceration, or tumor. This has been done with a skin biopsy punch under local anesthesia in the vulvar clinic. Following the removal of an adequate portion of the lesion a piece of gel-foam is placed over the site and held with pressure by the patient. This has proved to be effective in controlling the bleeding, and we have not seen any difficulties arise from using this method. On the other hand, valuable information needed to properly care for the patient has been obtained without hospitalization. The glucose tolerance test is performed upon all patients presenting with pruritus, regardless of type of lesion, color of lesion, or infective organisms found. A picture is made and it becomes a valuable part of the patient's record. The importance of the biopsy cannot be overstated. It has been utilized in over 90 per cent of our patients and has pro-

vided the decisive information in the management of the majority of all cases seen.

Management of Patients

The management of vulvar lesions after biopsy has been obtained is graphically demonstrated by Fig. 1. When the

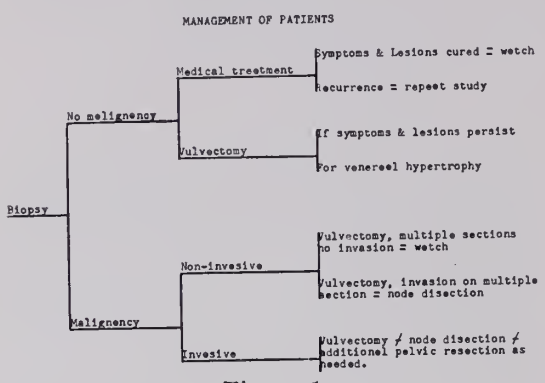


Figure 1

biopsy reveals a benign lesion the treatment is specific local and general medical therapy and the patient is watched. If any recurrence develops, the vulvar survey is repeated and again medical therapy is utilized. Extensive vulvectomy is performed upon patients with severe symptoms of pruritus, burning, itching, discharge and pain that persist over a long period of time despite exhaustive survey and prolonged general and specific local medical therapy.

Vulvectomy is also afforded to patients with chronic granulomatous venereal disease whose tissues fail to return to normal following adequate medical therapy and complete eradication of the infective organisms. Chronic hypertrophic residues of granulomatous venereal disease have been found in association with 18 per cent of the 83 cases of vulvar cancer seen on our service over the past thirteen years. Whenever the biopsy reveals carcinoma-in-situ, an extensive vulvectomy is then performed. Multiple sections of the tissues are studied microscopically. If these fail to disclose invasion the therapy is considered adequate. We have had no deaths from tumor or recurrence in any of the 12 patients with preinvasive carcinoma handled in this way from January 1, 1946, to January 1959, on the Tulane Service. If invasive malignancy is determined by biopsy the extent of the disease is determined by appropriate cytoscopic and proctoscopic examination and metastatic series is performed. The presence of bony or distant metastases are the only contraindications to surgery. The surgical management consists of extensive vulvectomy and bilateral inguinal and extraperitoneal pelvic lymphadenectomy. When adjacent structures are involved such as the vagina, urethra, bladder, or rectum, they are removed.

The procedure of extensive vulvectomy that has been used is called "radical vulvectomy" at most centers but here at Tulane we take issue with those who wish to call anything "radical" that relieves pain and prolongs the life of the patient. The procedure includes the wide excision of the entire vulva, including the labia minora and majora, the clitoris, and an additional border of the mons and perineal body. The incision is placed as far laterally as necessary to remove all of the diseased skin plus a sufficient border of normal tissue to prevent recurrence. The medial incision is placed within the vagina at the level of the hymenal ring but is readily moved higher if necessary. The dissection is carried down to the periosteum of the pubis and to the levator ani muscles, thus removing the urogenital compartments as well as the entire vulva. This basic procedure is performed both in malignant and benign disease of the vulva. However, in dealing with malignancy the contents of the ischio-rectal fossae are also removed.

This technique was instituted by Dr. Conrad G. Collins and since January 1, 1946, all patients on our service have been managed by a single team. Over this period of time, 128 patients have received extensive vulvectomy for malignant and benign disease (Table 3). The five year survival on those operated for malignancy is 68 per cent.

Those new patients from the vulvar clinic requiring vulvectomy are listed in Table 4 and are included in the total of

TABLE 3
VULVECTOMIES JANUARY 1, 1946, TO JANUARY 1, 1959

For malignancies		76
invasive	64	
pre-invasive	12	
For benign disease		52
Total		128

TABLE 4
VULVECTOMIES IN 2 YEARS OF VULVAR CLINIC

For malignancies		12
invasive	9	
pre-invasive	3	
For benign disease		10
Total		22

128. Vulvectomy done in this fashion has been shown to be vastly superior to simple, partial or hemi-vulvectomy. Consequently, these are not done on the Tulane Service. The procedure itself is rapid, safe, and associated with minimal bleeding. Blood transfusions have been needed in less than 50 per cent of cases. The patients are comfortable and are able to care for themselves by twenty-four hours after the operation. Primary healing has been achieved in over 85 per cent of patients and the majority of them go home in seven to ten days. Following complete healing of the operative site those patients interested in intercourse are able to engage in such with the same gratification as before. We have seen pregnancy occurring in 7 of these women and uncomplicated vaginal delivery of 10 babies.

Diabetic Vulvitis

One of the most common problems encountered in the vulvar clinic is diabetic vulvitis (Table 5). There have been 63 new patients admitted to the clinic with vulvar lesions and diabetes. In 40 of these, the diagnosis of diabetes or prediabetes was made by glucose tolerance test performed by the Tulane Obstetric and Gynecologic Research Laboratory. Some of these patients had repeated previous fasting blood sugar determinations and all had previous tests for glycosuria. Twenty-two of these were frank diabetics and the other 18 were pre-diabetics, (Table 5). Approximately one third of these patients had normal fasting blood sugars and the urines remained negative throughout the tests. For this reason, we now go directly to the glucose tolerance test rather than depending upon urine and fasting blood sugar determinations as screening procedures. It has also become apparent to us in managing the vulvar problems that the infections are equally resistant whether the woman be pre-diabetic or diabetic. Successful results with local medications are only achieved following proper control of the hyperglycemia in both diabetics and pre-diabetics.

TABLE 5
DIABETICS IN VULVAR CLINIC
March 7, 1957, to March 7, 1959

Diagnosis by Ob-Gyn. Research Lab.		40
Frank diabetics	22	
Pre-diabetics	18	
Known diabetics		23
Total		63

Of these 40 new diabetics, 10 were white and 30 were Negro. The age range was from 19 to 78 with the mean age of 50. The only common symptom presented was that of pruritus. Many complained of additional discharge, sores, burning, tumors, dyspareunia or boils. The duration of symptoms varied from two weeks to twenty years with an average duration of two and a quarter years. The appearance of the lesion was most commonly red, edematous or excoriated, but many were described as being white, atrophic or lichenified. Granulomas were noted in 2 instances and tumors of the vulva were found in 2. The final diagnoses in these 40 patients are listed in Table 6 and as can be readily seen infections are directly responsible for the majority of these problems. Superimposed infections were probably present in most of the remainder. In 3 of these patients, there was an associated vulvar malignancy.

The value of knowing that a patient has diabetes when she is taken to surgery for vulvectomy and lymph gland dissection is manifest to all, for healing is poor in the uncontrolled diabetic. The therapy utilized in the 40 new patients with diabetes

TABLE 6
VULVAR LESIONS IN NEW DIABETICS

Candida vulvovaginitis	10
Trichomonal vulvovaginitis	2
Cand. + Trich. vulvovaginitis	5
Chronic atrophic vulvitis	12
Leukoplakia	2
Lichen sclerosis et atrophicus	2
Carcinoma-in-situ	1
Bowen's disease	1
Adenocarcinoma Bartholin's gland	1
Pyogenic granuloma	1
Chronic folliculitis	1
Acanthosis nigricans	1
Behcet's syndrome	1
Total	40

and vulvitis is listed in Table 7. In managing the carbohydrate hypometabolism, diet alone was sufficient for the pre-diabetics and this varied from 1200 to 1800 calories with a low proportion of carbohydrates. Insulin or orinase was required

TABLE 7
THERAPY IN DIABETICS

Diet (1200 - 1800 cal.)
Specific diabetic therapy
Specific Rx candida
Specific Rx Trichomonas
Local medications
Surgery (Ext. vulvectomy)

in addition for many of the frank diabetics. Proprion gel and mycostatin have been the most commonly used agents for yeast infections, but boric acid capsules and douches have been of distinct value. For trichomoniasis, Floraquin, Milibis and Trichofuran have been used. Many of the degenerative and atrophic lesions have been relieved by the use of Cortisone, or estrogen creams, or lotions. The patient with Bechet's syndrome responded to oral cortisone and local aureomycin. Surgery, extensive vulvectomy, was performed in the 3 instances of malignancy and in 1 patient with chronic atrophic vulvitis. There has been no recurrence of any of the lesions managed by surgery.

As can be seen in Table 8, the usual period of time before complete relief of symptoms was within two to four weeks and the skin and mucous surfaces returned to normal within three months. One patient with neurodermatitis and

TABLE 8
RESULTS OF THERAPY IN NEW DIABETICS

A. Time to relief of symptoms

Time	No. pts.
1 - 2 wks.	18
2 - 4 wks.	16
1 - 3 mos.	4
3 - 6 mos.	0
over 6 mos.	1

B. Time to clinical cure

Time	No. pts.
0 - 1 mos.	19
1 - 3 mos.	13
3 - 6 mos.	2
6 - 12 mos.	2
over 12 mos.	3

psychiatric problems insisted that she had not been benefited despite prolonged medical therapy. One of the patients was a referral case and we have no follow-up on her. The vulvar skin has not returned to normal appearance in 5 patients followed over six months. Two of these have leukoplakia, 2 lichen sclerosis and atrophicus and 1 has acanthosis nigricans. However, the patients with leukoplakia are seen frequently and biopsied often. They all remain asymptomatic and no atypical epithelium has been discovered. The most important factor in bringing relief to these unfortunate women, many of whom had previously received numerous courses of the same medications we used, was to discover and control their hyperglycemia. During these two years we have seen 23 known diabetics with vulvar problems and the flare-up of vulvitis is usually related to uncontrolled hyperglycemia.

Conclusions

The vulvar clinic at Tulane has now been functioning for only two years and yet it has already proved to be of great value. Improved patient care and increased resident's training benefits are the natural consequences of concentrated effort by both Gynecologic and Dermatologic staffs. The extensive vulvar survey is basic and the value of routine biopsy, venereal studies and frequent use of the glucose tolerance test regardless of the fasting blood or urinary sugar findings,

has been stressed. The clinic has been a definite aid in obtaining excellent follow-up on the 128 extensive vulvectomies performed on our service over the past thirteen years. Reduced patient and doctor delay in providing definitive therapy for malignancies of the vulva is resulting in an increasing ratio of early lesions. We anticipate a continued shift in this direction and a resultant rise in the survival of patients treated for vulvar malignancies.

Historical Notes

Address delivered before the Physico-Medical Society of New Orleans, November 27th, 1846, by R. M. Graham, M. D.

This is the 25th Anniversary of the Physico-Medical Society of New Orleans. It was ushered into existence under auspicious circumstances, and for a period of time its progress was characterized by the most triumphant success. * * *

The harmony of which we speak, as essential to the success of all associations, is that personal decorum which should mark the conduct of every gentleman, not less in his intercourse with the world than with those with whom he is associated. Much, too, of the success of all societies depends upon the individual conduct of each member.

If we would elevate the profession and cause the science to advance, we must have an educated profession. Our members must be learned men, with minds fitted, by classical learning, and a long course of philosophical studies for the work of observation and deduction. With such men we may look for progress; without them we may expect to sink lower in degradation, and to hear louder and longer the laugh of derision which is already raised against us.

Griseofulvin--Twentieth Century Wonder Drug of Dermatology

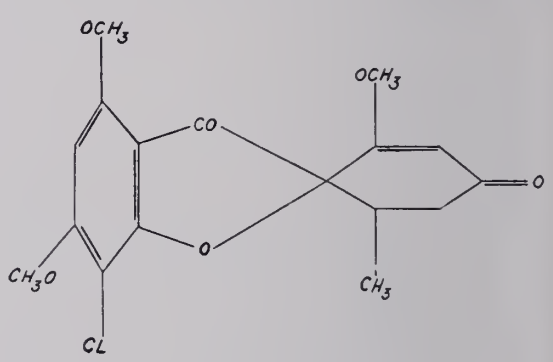
• Report on a new oral drug for the treatment of a group of pathogenic fungi, which, as the author points out, may prove to be a boon if used properly.

GEORGE GAETHE, M. D.*
New Orleans

THE discovery of griseofulvin † represents a major breakthrough in the field of dermatology, as well as in the entire field of medicine. This is the first orally administered drug to be effective against certain common dermatomycoses. It is not effective in the diseases caused by the yeast-like organisms.

In the near future, literature, both medical and lay, will probably be flooded with various reports, case histories, side effects, usual and unusual experiences with this new drug. This article is a serious plea for the judicious use of an extremely valuable and important drug. Care in the use of griseofulvin can develop for it either an excellent reputation, which it deserves, or it can become a "black sheep" for both physician and patient. The efficacy of griseofulvin has, at present, been established for a definite group of the pathogenic fungi. To diagnose fungous infection and start the patient on this drug without proper clinical and laboratory evaluation will result in a costly, unsuccessful routine of therapy. This will, in time, cause an adverse opinion of both physician and drug.

In 1955, Wilson [1] wrote, "the ideal antifungal drug even for superficial mycoses would seem to be one which could be safely administered internally in amounts sufficient to endow the cells eventually destined to produce keratin with the power to resist fungi completely, this power persisting as they become keratinized, and the drug thus exerting its effects from within outward." Griseofulvin, which was isolated in 1939, by Oxford et al,[2] may fulfill these requirements. It is a fermentation product of three species of Penicillium, namely *P. patulum, P. griseofulvin,* and *P. janczewski.* Its structure has been established by Grove et al.[3] (Figure 1) It has been used in agriculture for the control of plant fungal pathogens.



GRISEOFULVIN

Figure 1.—Chemical structure of Griseofulvin.

In August of 1958, Gentles [4] reported the effectiveness of small oral doses of the drug in *Microsporon canis* and *Trichophyton mentagrophytes* infections in guinea pigs. Blank and Roth,[5] in March 1959, reported the results of the use of griseofulvin in human dermatomycoses. This latter article should be read in its entirety by all physicians, since it is the first in this country which deals with the use of the drug in human beings. Clinical experience is at present limited through-

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† Dr. G. Kenneth Hawkins, Schering Corp., Bloomfield, N. J., supplied the Fulvicin (griseofulvin).

out this country due to the extreme shortage of supply of the drug.

The miraculous results in even relatively few cases, make it imperative for all physicians to recognize the potentialities and hazards of its use.

Indications

The drug has been found to be effective in disease caused by:

1. *Trichophyton rubrum*, the causative organism in certain chronic, recalcitrant cases of tinea corporis and onychomycosis.
2. *Microsporon audouini*, the cause of the human variety of tinea capitis.
3. *Trichophyton mentagrophytes*, a common cause of tinea cruris and tinea pedis.
4. *Microsporon canis*, the cause of the animal variety of tinea capitis.
5. *Epidermophyton floccosum*, a frequent cause of tinea cruris and also a cause of tinea of the nails, and the feet.
6. *Microsporon gypseum*, which can involve hair and skin.
7. *Trichophyton tonsurans*, the cause of "black dot" tinea capitis, which does not fluoresce under Wood light examination.
8. *Trichophyton megnini* and *Trichophyton gallinae* of this rosaceum group of *Trichophyton violaceum*. These can involve hair, skin, and nails.
9. *Trichophyton verrucosum* in calves.

It must be remembered that the trichophyton group can involve hair, skin and nails; the microsporon group can involve hair and skin and the epidermophyton group, skin and nails.

Fungus Diseases Not Affected by Drug

Griseofulvin is not effective in diseases caused by:

1. *Malassezia furfur*, the cause of tinea versicolor.
2. *Candida albicans*, the cause of Monilia (yeast) infections.
3. *Cryptococcus neoformans*, the cause of cryptococcosis.
4. *Sporotrichum schenkii*, the cause of sporotrichosis.
5. *Hormodendron compactum* and *Phialophora verrucosa*, the causes of chromoblastomycosis.
6. *Blastomyces dermatitides* and *Blastomyces brasiliense*, the causes of blastomycosis.
7. *Histoplasma capsulatum*, the cause of histoplasmosis.

Aids in Diagnosis

Fortunately, we now have readily available simple means of positive identification and determination of the pathogenicity of species of fungi. The earliest growth of fungus on Sabouraud's media can be readily identified as pathogenic or saprophytic by the simple addition of a few drops of the "Universal Wide Range Indicator" (Harleco).* A pathogenic growth will turn green or blue in color (alkaline) while a nonpathogenic organism will show a red or orange color. New compounds (such as Acti-dione) are also being incorporated into special media to inhibit the growth of saprophytes. Since monilial infections can involve any site that fungus can involve, it is important in many cases to culture for Monilia to obviate the use of griseofulvin. Pagano-Levin * media can be used to differentiate *Candida albicans* from the nonpathogenic yeasts. In three to four days, the organisms will grow as a creamy white or faintly pink colony, while other species (nonpathogenic) grow as red colored colonies. The above procedures are easily done in the office.

Dose

The dosage schedule is at present being studied at various centers throughout the country. However, for infections of the glabrous skin the average dose varies from 750 to 1000 mgm. daily, which is usually given as the 250 mgm. tablet four times daily. Some patients get quicker results with double this dose. This, of course, makes therapy extremely expensive. In children, 500 to 750 mgm. per day for an average fifty pound child seems to be adequate. In some instances the daily

* Hartman-Leddon Co., Philadelphia, Pa.
* E. R. Squibb & Sons, New York.

dose has been given all at one time. In other cases, improvement has continued after therapy has ceased. The duration of therapy and the question of small doses to prevent recurrences remains to be worked out. Suffice it to say that the ideal schedule has yet to be determined.

Side Effects

The side effects reported thus far are:

1. Headaches and abdominal distress. This usually disappears spontaneously without stopping the drug. Giving the whole daily dose at bedtime may prevent this.

2. Fatigue. This also is relieved after the second week of therapy without discontinuing the drug .

3. Diarrhea. Of the mildest type.

4. Drug eruptions. A morbilliform eruption, which developed on the seventh day, has been reported. This disappeared on stopping the drug and reappeared after the drug was started again. Urticaria, photosensitivity and a lichen planus-like eruption have been reported.

5. Cytological effects. Paget and Walpole[6] found that sublethal doses given intravenously or intraperitoneally, produced an arrest of mitosis in the metaphase in sites of mitotic activity in the rat. They concluded that although these effects somewhat resemble the effects of colchicine in rats, at least, it seems much less generally toxic in doses required to produce equivalent metaphase arrest. Blank and Roth,[5] in bone marrow studies, found no significant change in karyokinetic index in either the red or white blood cell series. Extensive investigation is being done at this time to determine if the sperm count is affected by the drug. At present, it can be said that there is no conclusive proof that the sperm count is affected. A series of cases is at present under study in which testicular biopsies are being done at certain intervals during administration of the drug. These are not reported as yet.

Case Reports

Case No. 1—P. S., white male, age 28, (Figure 2) with chronic recurrent tinea corporis of buttocks, resistant to local therapy. After one week of therapy of 500 mgm. twice daily, the area was pinkish, but no scaliness noted. Symptoms were relieved on the third day. Some pigmentation remained on the seventh day. (Figure 2A) He has remained well for two months.



Figure 2.—Case No. 1. Tinea corporis.



Figure 2A.—Case No. 1 after one week of therapy. Note hyperpigmentation.

Case No. 2—T. J., white male, age 35, had recurrent tinea corporis since 1954, and received various topical applications with only temporary relief. Culture revealed *Trichophyton rubrum*. The involvement was of the groins, abdomen, and buttocks. On May 30, 1959, he was given 500 mgm. of Griseofulvin, and in ten days, all lesions had disappeared. However, after two weeks, he discontinued therapy, and on July 8th, he had a recurrence. At no time did he have any noticeable effects.

Case No. 3—R. C., Colored female, age 4. Diagnosis tinea capitis. Culture showed *Microsporon audouini*. This case was absolutely recalcitrant to the routine therapy from December 1958, to June 1959. X-ray epilation was considered, but the knowledge that Griseofulvin would become available made us bide our time. In June of 1959, Griseofulvin was started, 250 mgm, three times daily, (a very small dose due to the shortage of Griseofulvin.) In three weeks the Wood light examination was negative. Treatment is being continued at present.

Case No. 4—J. G., white female, age 22, with chronic onychomycosis involving two nails of the

toes. She had previous removal of nails, and a long program of X-ray therapy, to no avail. After one month of therapy, one tablet four times daily, she reports excellent results from Paris, where she is vacationing.

Case No. 5—G. A. A., white male, age 47, started with eruption of right side of the face and neck in February 1959. Cultures were repeatedly negative. The disease was recurrent, and on June 18, 1959, both culture and biopsy revealed the presence of fungi. This cultured out as *Trichophyton rubrum*. Within three days of therapy (one gram daily) the itching was relieved, and in one week, clinical improvement was noted.

Case No. 6—J. S., white female, age 73, a known diabetic with severe tinea corporis of the ankle region for two years' duration, was started on Griseofulvin, 250 mgm, four times daily, and showed marked improvement within ten days.

Commentary

Naturally, the future of this drug is uncertain. Fortunately, toxic reactions are minimal in therapeutic doses in man. However, blood counts should be done if the patient is under prolonged therapy.

However effective this drug may be in therapy of certain mycotic diseases, there is no reason to believe that re-exposure will not cause reinfection.

It is interesting that cultures and scrapings may remain positive throughout the course of therapy. Perhaps a local desquamating agent should be used concurrently. A dose of 500 mgm. per day may prevent development of clinical disease. How long this should be maintained remains to be determined. The immunological aspects, naturally, may take years to properly evaluate. The only gloomy thought in this regard is that there is a possibility of developing future resistant strains among the now susceptible organisms. Is this any reason to withhold a valuable drug which can help a patient with long standing, disabling, and disturbing fungous diseases? The consensus of opinion would probably be No!

Many patients with chronic onychomycosis characterized by foul smelling, ugly, piled up, necrotic nail tissue, may now look forward to a cure. This is true even though the disease may have been present twenty or more years. The course of treatment is costly, but certainly worthwhile as long as cure is effected. On the other hand, suppose the onychomycosis is due to *Monolia albicans* and after three or four months of treatment, no change is noted. We would have a most unhappy patient, and it behoves us, as physicians, to avoid this state of affairs. It may be said that usually monilial involvement of the nails occurs on the proximal aspect with frequently associated paronchia.

The proper use of the drug may have been repeated throughout this article, but repetition for emphasis should have special license in all scientific endeavors.

This is truly a new era in the therapy of a very discouraging, recurrent and frequently disabling disease.

Use griseofulvin properly.

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Benign Encapsulated Neurilemmoma (Schwannoma) of the Brachial Plexus; Report of a Case

• A rare tumor of nerve sheath, in a young white male, is reported together with the surgical treatment.

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Lafayette

BENIGN neurilemmoma of the brachial plexus is a rare entity. Godwin [4] in reviewing the subject in 1952, reported 11 cases. Eight cases were from the Memorial Hospital and 3 others from elsewhere. Ehrlich and Martin [5] reported 10 cases arising about the tissue of the head and neck, observed at the Memorial Hospital from 1936 to 1942. The lesion was first described in 1908. Ewing suggested the name neurilemmoma for these tumors.

Neurilemmoma is a tumor of the nervous system arising from the schwann cells. It occurs as a benign or malignant tumor. As a benign lesion, it may occur as a fusiform encapsulated solid tumor which, as it increases in size, develops hemorrhagic necrosis centrally, or as a dumbell or hour-glass tumor related to its position through the intervertebral foramen.

This benign encapsulated growth may occur within the central or peripheral nervous system. The acoustic neuroma is an example of the centrally placed type. Parnes [1] reported a case involving the vagus nerve, as did Altany and Pickerell.[2] Pou [3] has recorded a similar lesion involving the facial nerve. The tumor may occupy any one of the following positions. When found centrally located, the fibrils of the nerve are spread out over the tumor. In the eccentric position, it is intimately attached to the nerve sheath. Rarely, the nerve passes through the tumor.

Symptomatology and Diagnosis

The symptoms of this lesion are few until the growth produces compression effects which are either sensory or motor or both. It is then that most of these tumors are discovered. When they occur in the posterior mediastinum or retroperitoneum, symptoms are late in appearance because the growth is less hampered than when found in the peripheral nerves. When the lesion is found in the posterior lateral triangle, it must be differentiated from papillary carcinoma of the thyroid, metastatic lymph node usually from thyroid cancer, or lymphadenopathy.

Treatment

These tumors are benign. Pack [6] states that no malignant transformation of a benign encapsulated neurilemmoma has ever been observed, even when the capsule has been left behind. Because of this observation, conservative surgical measures should be utilized for their removal. If after the exposure of the tumor, there is a doubt as to the benignancy of the lesion, it should be surrounded with wet 70 percent alcohol packs to wall off the field and a biopsy performed. Aspiration is only mentioned to discard it.

Should the tumor be associated with a minor nerve, and conservative surgery be difficult or hazardous, the nerve may be sacrificed if necessary. However, in view of the fact that these growths are benign and encapsulated, it should not be difficult, once the tumor is exposed, to incise the capsule in the linear direction of the nerve and shell the tumor out with the back of the scalpel handle. The capsule may be left behind, regardless of the relation of the tumor to the nerve.

Errors in the proper appreciation of the

pathology of this tumor have caused unnecessary sacrifice of valuable nerves with resultant paralysis and deformity. It should always be a part of the surgical technic to expose and place a tape above and below the tumor to demonstrate the relation of the nerve to tumor mass. This will also prevent the mistake of interpreting the tumor as papillary carcinoma of the thyroid or lymph node pathology.

Case History

L. J. D., white male, age 22, presented himself with a lump in the left side of his neck. It had been present for four years. The lump seemed to enlarge rapidly at first and then remained the same in size. About two years previously he had begun to have an occasional shooting pain down the inner side of the left arm to the elbow. Of late the pain had become more persistent and incapacitating.

Upon examination, a lump was found in the posterior triangle of the left side of the neck, just lateral to the sternocleidomastoid muscle and about 1 inch above the clavicle. The exact size could not be made out because of the depth of its situation and also because manipulation caused severe shooting pains down the arm. There was no muscle atrophy of the shoulder, arm or forearm. There were no areas of abnormal sensitivity. The tonsils were large and ragged. No lymphadenopathy was present. The left thyroid gland was not palpable. The liver and spleen were not palpable. His blood pressure 128/70. Routine laboratory tests were normal. X-ray of the chest was negative for pathology.

The most likely working diagnosis was neurilemmoma, probably benign.

Under endotracheal anesthesia, a curved incision, extending from the attachment of the sternocleidomastoid muscle at the clavicle upwards for about 2 inches above the mid-point of the clavicle and then downwards to the distal third was made. From the mid-point, a vertical incision was made, extending to the level of the cricothyroid cartilage. The incision extended through the platysma muscle. The tumor presented itself in the wound. The sternocleidomastoid muscle was freed at its lateral border and retracted medially, together with the internal jugular vein. By means of blunt dissection, the tumor was isolated from the adjacent tissue. It was fusiform in shape. From each end a large nerve trunk could be seen. Upon further exploration, it was found to be the anterior trunk of the brachial plexus. With tapes above and below the tumor, it was completely mobilized. A linear incision was made into the nerve and the capsule exposed. This was also incised and the tumor easily shelled out. The defect in the cord was closed with very fine interupted silk sutures. A small drain, which was removed in forty-eight hours, was placed laterally in the wound.

Pathological Report: The gross specimen consisted of a rubbery white encapsulated nodule, measuring 4.0 by 2.5 by 2.0 cm. The cut surface revealed a variegated yellow, gray and red tumor-like tissue. Microscopic sections of the encapsulated tumor showed it to consist of fasciculae of spindle cells. There were extensive areas of hemorrhage and edema with reactive changes in the tumor tissue. Siderocytes were scattered in the vicinity of the hemorrhage. In some areas the cells were hyperchromatic with large nuclei; however, this was attributed to the hemorrhage and edema within the tumor.

Pathological Diagnosis: Neurilemmoma with benign degenerative clumps.

The follow-up report clinically showed the wound completely healed. There was an area of numbness over the deltoid area. Otherwise there were no neuromuscular changes. The patient has completely recovered.

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The Quieting Effect of Meprobamate-Sparine on Psychotic Patients

• The author reports gratifying results in the treatment of 105 psychiatric patients with Meprobamate-Sparine.

MARIE KERSHAW FRAIN, M. D.*
Jackson, Louisiana

ON June 5, 1958, a six month clinical investigation was started in which 105 white female inmates of Colony 2 of the East Louisiana State Hospital were treated with a combination of ataraxics.† The patients had been hospitalized for varying periods ranging from less than one year to as long as thirty-five years. Eighty-three per cent ranged in age from 40 to 81 years; 17 per cent were 19 to 39 years old.

Seventy patients (about 67 per cent) had schizophrenia. The mental disorders of the others included manic-depressive, involutional and senile psychosis, psychoneurosis, chronic brain syndrome, and mental deficiency. (Table 1.)

Although various psychotic symptoms responsible for ward disturbances were present in many cases, the most troublesome feature of the whole group was noisy behavior at night. Since the chief purpose of this study was to find a mild compound or combination of agents capable of quieting psychotic patients sufficiently to permit sleep, all subjects in the series were selected for their overactivity, overtalkativeness and general noisiness.

The medication used, a combination of 200 mg. meprobamate with 25 mg. promazine in capsule form, was chosen because of the dual action and relative mildness of the mixture, and the probable rarity of side effects.[1, 2] In selecting this combination, it was believed that the influence of two distinct pharmacological properties would be obtained to alter the behavior pattern:[1,3] (1) Relaxation and quieting of overwrought emotions. This was expected from the action of meprobamate in the thalamic area. (2) Suppression of disorders of the intellectual content. Such result was anticipated from the blocking activity of promazine on deranged ideational impulses (hallucinations, delusions, fears). This is believed to occur mainly in the hypothalamic region. Thus, it is said,[1-3] disturbances of mentality may be subdued and motor excitement controlled.

TABLE 1
DIAGNOSIS AND CLINICAL RESPONSE OF 105 FEMALE PSYCHOTIC PATIENTS TREATED WITH MEPROBAMATE-PROMAZINE

	Control of Noise and Restlessness		
Diagnosis	Good to Excellent	Satisfactory	None
Schizophrenia, undifferentiated	4	14	–
paranoid	12	11	4
hebephrenic	5	5	3
catatonic	6	5	1
Mental deficiency	4	9	1
Manic-depressive psychosis	4	2	–
Involutional psychosis	2	2	–
Senile psychosis	1	–	–
Chronic brain syndrome	4	2	1
Psychoneurosis	–	3	–
	42	53	10
	95 (90%)		(10%)

Dose

The minimum dose consisted of 1 capsule three times daily; the maximum

* From East Louisiana State Hospital, Jackson, Louisiana.

† Prozine (Trademark) Capsules (200 mg. Meprobamate with 25 mg. Promazine), available from Wyeth Laboratories.

never exceeded 3 capsules three times a day. The combination was administered orally; no auxiliary medication was used. Behavior was assessed weekly for the first four weeks, then bi-weekly thereafter. In addition, a mental examination was given to each patient at the end of the study. On the basis of the combined results of these studies, the patient's response was considered *excellent* if her degree of tractability, personal neatness, cooperativeness, and willingness to participate in the hospital program had reached the maximum to be expected for her condition, and no change in medication was contemplated. The patients whose response was considered *good* were all chronically deteriorated, but had become more manageable under the medication and performed their ward duties better than formerly.

Results

Use of the combination over a half year's time was amply justified. Meprobamate-promazine capsules proved particularly suitable for maintenance of quiet and manageability in the psychotic or psychoneurotic patient after the disturbed behavior had been controlled initially by parenteral medication. Of the series of 105, 95 patients (or 90 per cent) showed improvement in conduct as reflected in quieter sleep at night, and less noise and restlessness and greater cooperation during the waking hours. (Table 1.) Five of the patients who had shown excellent progress were later furloughed.

Of the 10 patients who showed no improvement, 8 were schizophrenics in the 60 to 74 year age group; of the other 2, 1 was a 40 year old deteriorated alcoholic who had a chronic brain syndrome, and 1 was a 45 year old mental defective without psychosis.

Three per cent were later transferred from the research ward for reasons unrelated to the project (e.g., treatment of hypertension or electroshock therapy).

Side Effects

It was encouraging to find that no evidence of morning depression or motor retardation resulted from the medication. There was no undesirable reduction in blood pressure after ingestion of the dose, no salivary disturbance and no gastrointestinal upset. No jaundice occurred at any time throughout the six month study.

Dermatitis developed in 3 patients. In 2 of these a mild blush appeared over the chest one and two days, respectively, after start of medication with 3 capsules daily. The rash disappeared promptly in both cases during a two day interruption of treatment, and did not recur on reinstitution of therapy.

In the third patient, medication was begun on June 5, 1958, with 1 capsule three times a day. Because of her continued restlessness, the dose was increased, on August 27, to 2 capsules three times daily. Erythema and pruritus appeared about a month later, on September 29, became severe and involved face, neck, trunk, arms, legs and vulva. The patient scratched incessantly. On cessation of the medication the skin symptoms disappeared but recurred immediately when the daily dose of 6 capsules was resumed. Thus cutaneous evidences of sensitization did not develop until the patient had been under medication for three months and twenty-four days.

Since no delayed cutaneous symptoms have been reported from either meprobamate or promazine alone, it is surmised that the reaction described must have been either a specific side effect of the combination per se, or an indication that the patient, unknown to the physician, had been ingesting some material to which she was allergic. Investigation of the response of this patient is continuing and treatment with the meprobamate-promazine capsules has been reinstated. To the date of this report (March, 1959) she has experienced no similar reactions. Since the rash did not develop for nearly four months after medication was initiated, it will be necessary to persist with the treatment for at least an additional three and one-half months to determine whether the

combination itself was the true source of the symptoms.

Summary

The meprobamate-promazine combination is safe and mild; and is useful for eliminating restlessness, overactivity and noisy behavior, particularly at night, in psychotic patients. The compound does not, however, control agitation in the acute episode. In this series, 90 per cent of 105 psychotics were quieted by doses ranging from 3 to 9 capsules daily. Medication was continued for six months.

No side effects were observed except dermatitis. Cutaneous evidences of sensitization occurred only with the larger doses. In 2 per cent such symptoms were transient and did not recur after temporary cessation of the dose. In 1 per cent persistent erythema and pruritus developed after three months and twenty-four days of treatment.

Acknowledgment

The cooperation of Superintendent W. E. Reid, Supervisors Little and Allen, and the attendants who assisted throughout this project, is gratefully acknowledged.

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University of Louisiana

In accordance with the provisions of the New Constitution, adopted by the State Convention in 1845, the Legislature at its last session passed a law for the establishment of a State University, with the above title, to be located in the city of New Orleans. It is to have four Departments—*Law, Medicine, Theology,* and *General Literature and Science.* Two of these Departments, viz: Law and Medicine have already been organized, and will proceed with their respective duties next fall. The late Medical College of Louisiana has been merged into the Medical Department of this University and its Professors will fill its different chairs. * * * The late Medical Hall is destined for the Law School, and a much larger building adjoining is being erected for the Medical School. The Literary Department has not yet been organized. The buildings are all to be on the Capitol Square. * * * The late class of the Medical College numbered 166; of whom 27 graduated at the close of the term. The prospects of this Institution are certainly very flattering.

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Editorial

We Should Oppose "The Health for Peace Act" (S. J. Res. 41)

The United States has just closed its fiscal year with $12 billion deficit, the greatest in peacetime history. Congress has just authorized the continuation of the foreign aid program which will mean the spending of another $3.5 billion. In addition to this, the American taxpayer is being invited to carry a further and dangerous tax burden. The Eighty-sixth Congress has before it S. J. Res. 41. Its title is "The International Health and Medical Research Act of 1959" or "The Health for Peace Act." It is another example of profligate spending.

The bill is now before the House Interstate and Foreign Commerce Committee, of which Oren Harris of Arkansas is chairman. The purpose of the joint resolution is to provide $50 million a year:

To encourage and support on an international basis studies, investigations, experiments, and research, including the conduct and planning thereof, relating to:

(A) The causes, diagnosis, treatment, control, and prevention of physical and mental diseases and other killing and crippling impairments of man.

(B) The rehabilitation of the physically handicapped, including the development and use of appliances for the mitigation of the handicaps of such individuals.

(C) The origin, nature, and solution of health problems not identifiable in terms of disease entities.

(D) Broad fields of science, including the natural and social sciences, important to or underlying disease and health problems.

It is obvious that such a plan is broad enough to cover practically everything in the whole field of medicine and its related activities. It would open the way for governments around the world to engage in various sorts of medical activities at the expense of the American taxpayer, even to the extent of promoting state medicine in those areas. It is evident from such wording that the initial authorization of $50 million a year would just

be a starter; that the provisions of the bill give the United States a strong thrust into international health activities in socialist countries. Our taxpayers would finance a variety of interesting, lucrative, and intriguing medical projects around the world where governments are perfectly capable of doing the same thing themselves.

The bill would strengthen the interlocking directorships among our federal health agencies, and the international socialist agencies, such as the International Labor Organization and the World Health Organization.

Physicians as a group are not familiar with the involved processes by which we, as a nation, are being drawn into the field of Socialism. Our political leaders maneuvered us into the United Nations. This was not our first mistake, but an important one.

In due course, the United States Government accepted association with two Socialist organizations, when we ratified the International Labor Organization and the World Health Organization constitutions. Each time we abrogated certain of our constitutional rights and weakened ourselves by each action.

The World Health Organization, by virtue of its being a creature of the United Nations, receives 37 per cent of its $13.5 million budget from the American taxpayer. As a nation we are pledged to supply whatever amount the World Health Organization Assembly exacts from us. Further official connection between our government and WHO is provided in the Mutual Security Acts of 1948 and 1958, (Public Laws 95 and 477). The WHO is strongly supporting "The Health for Peace Act" since the preamble of the bill commits the United States to cooperate with and support the endeavors of various United Nations' agencies, including WHO and United Nations Children's Fund.

Many individuals who are active in WHO are known to have been supporting the campaign to establish socialized medicine in this country, in the past fifteen years.

Any measure which would promote science and relieve human suffering has a strong emotional appeal, regardless of whether its provisions are rational or within the possibility of practical application. This applies in both respects to the "Health for Peace Act." This bill, however, is unnecessary. The WHO is already spending some $5 million of our dollars a year on international health projects. The National Institutes of Health, in 1958, spent on international research another $3.6 million.

After ten years of foreign economic aid and $41 billion, the taxpayers and policy makers of the government should take stock and see what they have accomplished beside the promotion of envy and jealousy, and the proposal to change the name of Uncle Sam to Uncle Sap.

If this bill is enacted into law, it will run the risk of becoming a part of foreign policy, with the result that the appropriations will snowball into billions—money which will be used more for socialistic projects and the promotion of state medicine than for constructive research in the science of medicine.

The era of profligate spending by our government has led to deficit spending and borrowing. This in turn is pushing us towards inflation or towards its only alternative, which is financial panic.

In summary, this bill "Health For Peace Act" would have the effect of throwing American medicine into the international arena of socialist endeavors, of spending the taxpayer's money needlessly in a field where it is now being used in sufficient amount, and of increasing already vicious inflation. It will benefit the taxpayer and American medicine not one bit! As citizens and physicians we should oppose it.

Challenge to Socialism, Vol. 13; Nos. 18, 19, and 21.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

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MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

The twenty-third annual meeting of The New Orleans Graduate Medical Assembly will be held March 7-10, 1960, headquarters at the Roosevelt Hotel. Listed below are the chairmen and vice-chairmen of the various sections which will be represented:

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DERMATOPATHOLOGY SEMINAR

The University of Texas Postgraduate School of Medicine will present a seminar on Dermatopathology from 9:00 to 12:00 noon and 1:30 to 5:00 P.M. on November 12, 1959, in the Auditorium of The University of Texas M. D. Anderson Hospital and Tumor Institute. This seminar

is designed for pathologists and dermatologists interested in the histopathologic changes of various skin disorders. It will be built around sets of slides which will be mailed to the participants in advance for individual study and diagnosis. Dr. Elson B. Helwig and Dr. J. Leslie Smith will act as moderators for the presentation of the cases and the discussion. The cases will include non-neoplastic as well as neoplastic entities.

The seminar will be restricted to 100 participants and registration will be closed October 12, 1959.

Although not a part of the Fourth Annual Clinical Conference scheduled for November 13 and 14, 1959, this seminar has been scheduled to immediately precede the Clinical Symposium because of the areas of overlapping interest.

For further details, write the Office of the Dean, The University of Texas Postgraduate School of Medicine, 410 Jesse Jones Library Building, Texas Medical Center, Houston 25, Texas.

DIABETES ASSOCIATION OF LOUISIANA

At a meeting held in New Orleans in May, 1959, the following officers were elected by the Diabetes Association of Louisiana: Dr. Frank Pickell, Baton Rouge, President; Dr. Daniel W. Hayes, New Orleans, Vice-President; Dr. A. A. Herold, Jr., Shreveport, Secretary; Dr. A. A. Herold, Sr., Shreveport, Treasurer.

SILVER ANNIVERSARY MEETING

The 25th Annual Meeting of the American College of Chest Physicians was held at the Ambassador Hotel, Atlantic City, June 3-7, 1959. More than 1800 physicians and guests attended the meeting. Fellowship certificates were presented to 210 physicians at the Convocation on Thursday, June 4. Honorary Fellowships were awarded to Dr. Harold S. Diehl, New York City, and to Mr. Murray Kornfeld, Founder and Executive Director of the College. Masterships were conferred upon eleven past-presidents of the College.

The 1959 College Medal was awarded on June 6 to Mr. Murray Kornfeld for having founded the American College of Chest Physicians and for having developed the College into a world-wide medical society—for having founded and developed the journal, DISEASES OF THE CHEST, and for having devoted 32 years of his life as a leader in furthering the specialty of diseases of the chest. This was the first time the College Medal had been awarded to a lay person.

The following officers of the American College of Chest Physicians were elected for the year 1959-1960:

President, Seymour M. Farber, San Francisco, California.

President-Elect, M. J. Flipse, Miami, Florida.

First Vice-President, Hollis E. Johnson, Nashville, Tennessee.

Second Vice-President, John F. Briggs, St. Paul, Minnesota.

Treasurer, Charles K. Petter, Waukegan, Illinois.

Assistant Treasurer, Albert H. Andrews, Chicago, Illinois.

Chairman, Board of Regents, Arthur M. Olsen, Rochester, Minnesota.

Vice-Chairman, Board of Regents, Irving Willner, Newark, New Jersey.

Historian, Carl C. Aven, Atlanta, Georgia.

The following physicians from Louisiana received their certificates of Fellowship in the College at the Convocation on June 4: Harold P. Chastant, Lafayette; Donald R. McCurley, New Orleans; John H. Signorelli, New Orleans; John A. Worley, Alexandria.

CANCER RESEARCH SYMPOSIUM

THE FOURTEENTH ANNUAL SYMPOSIUM
on
FUNDAMENTAL CANCER RESEARCH
"Cell Physiology of Neoplasia"
Will be held
Feb. 25, 26, 27, 1960
at
The University of Texas
M. D. Anderson Hospital and Tumor Institute

THE VAN METER PRIZE AWARD FOR 1960

The American Goiter Association again offers the Van Meter Prize Award of $300.00 to the essayist submitting the best manuscript of original and unpublished work concerning "Goiter—especially its basic cause". The studies so submitted may relate to any aspect of the thyroid gland in all of its functions in health and disease. The Award will be made at the Fourth International Goiter Conference in London, England, July 5-9, 1960, where a place on the program will be reserved for the winning essayist if he can attend the meeting. For 1960, the recipient of the Award will receive consideration for an award of a travel honorarium.

The competing essays may cover either clinical or research investigations, should not exceed 3,000 words in length and must be presented in English. Duplicate typewritten copies, double spaced, should be sent to the Secretary, Dr. John C. McClintock, 149½ Washington Avenue, Albany 10, New York, not later than January 1, 1960. The committee who will review the manuscripts is composed of men well qualified to judge the merits of the competing essays.

TEST OUTLINED TO DISCOVER METABOLISM DEFICIENCY

A new method has been found to detect during infancy a metabolism deficiency which is

known to be a contributing factor in certain mental illnesses.

According to Dr. Gerhard Nellhaus, the new procedure involves the use of a tiny paper strip to test urine samples of infants during the first months of life. Such tests will indicate the presence of a metabolism deficiency known as phenylketonuria.

The defect is a heriditary deficiency of an essential amino-acid—the chemical which builds protein and is vital to life. If not discovered and corrected through diet, the deficiency could lead to mental illness, the physician warned.

In his report, which appeared in the June 27 Journal of the American Medical Association, Dr. Nellhaus said that with the institution of proper diet the convulsive, behavioral, and intellectual disturbances of the disorder will be improved.

The new test is done with material consisting of a stiff strip of celulose impregnated with various chemicals. The doctor said that the strip is dipped into the urine sample or saturated by pressing against a wet sheet or diaper. Color reaction occurs within a few seconds and a final reading can be made in 30 seconds.

In the past, Dr. Nellhaus said, testing was done by using a ferric chloride solution. The new method is more convenient as well as practical since the color reaction is more positive and will not fade as rapidly as will the solution.

He also noted that the strip method is beneficial in testing infants who are receiving drugs used in the treatment of rheumatic fever or rheumatoid arthritis.

Dr. Nellhaus is chief resident, children's medical service, Massachusetts General Hospital.

COLD FOOT MAY INDICATE "SILENT" HEART ATTACK

Coldness of one foot suddenly occurring after an operation may be a sign of a "silent" heart attack.

The coldness is the result of a circulatory block in the leg, caused by a blood clot carried from the heart, Dr. Nathan Frank, Jersey City, said in the July 4 Journal of the American Medical Association.

He believes that some sudden postoperative deaths attributed to pulmonary embolization (blood clots originating in the artery leading to the lungs and moving to the heart) may actually be the result of silent myocardial infarctions.

Heart attacks after surgery for some other ailment may pass unnoticed, Dr. Frank said, because the pain is thought to be associated with the surgery.

Whenever a person suddenly develops a coldness of one foot 4 to 21 days after surgery, silent myocardial infarction should be considered as a cause, he said.

In reporting three cases of cold foot following surgery, Dr. Frank said the syndrome had not been previously described.

It is "of great clinical significance," he said, because, if unrecognized, it may cause death, especially with the trend to early ambulation after surgery.

He recommended that patients be questioned daily about the presence of pain and coldness in the foot and calf. In addition, all patients should be given an electrocardiograph examination before surgery to determine the presence of old myocardial infarctions. If they are present, precautions against the development of embolism can then be taken, he said.

Dr. Frank is associated with the Jersey City Medical Center and Seton Hall College of Medicine and Dentistry.

NEW RADIOACTIVE TEST SHOWS LIVER DAMAGE

A new test using radioactive dye to measure the function of the liver was described in the July 4 Journal of the American Medical Association.

The test, which is much simpler than older tests, opens many new possibilities in the study of liver disease and damage, according to Drs. Robert A. Nordyke and William H. Blahd, University of California Medical Center, Los Angeles.

Among the conditions in which the test is used are cirrhosis, hepatitis, alcoholism, and common bile duct obstructions.

Radioactive rose bengal is injected into the blood stream. The speed with which it disappears from the blood indicates the degree of liver damage or disease. The liver plays a role in removing the dye from the blood. Its disappearance is measured by a standard radiation counting device held against the head behind the ear.

The head was chosen as the site of measurement because it contains a rich and stable blood supply which is distant from the large and changing concentrations in the abdomen, the doctors said.

Older tests using rose bengal and other substances necessitated the withdrawal of blood from the veins for checking the color of the blood. The value of these tests are restricted, the doctors said, to liver disease without jaundice because of difficulty in reading color changes and because of possible injury to an already damaged liver by large doses of dye.

The new test circumvents these problems, the doctors said. Since detection of changing concentrations of dye depends on levels of radioactivity rather than color, valid results are extended to all types of liver damage despite the presence of jaundice. In addition, the minute quantities of both radioactivity and dye allow multiple tests to be done without harm.

AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS

I believe the American Association of Medical Assistants will play an important role in preparing your and my future. With proper direction, it will hasten our achievement of a more professional status as paramedical personnel. This recognition will not come about through wishes or demands. It must be actively pursued and merited. Physicians are realizing more and more the advantages and necessity of employing qualified personnel, and it behooves each one of us to meet and maintain the quality of performance desired.

I believe that the requirements for membership in AAMA will inevitably become more selective and that, as a consequence, membership in this Association will eventually symbolize a measured standard of competence. This will not happen overnight, or be handed us on a silver platter; complacency has no place in our future.

The American Association of Medical Assistants, through its central office, will furnish the individual medical assistant with an unprecedented opportunity for keeping up to date with new developments in her career. It will provide an effective artery for correlation of activities. The employment of an executive secretary will afford the officers and committee chairmen some relief from time-consuming clerical duties, thus allowing them to expend more effort toward developing a progressive program for the future. We should now find it possible to move forward in our efforts to establish realistic standards of performance for the professional medical assistant, and to aid in satisfying the need for specialized educational facilities in the more sparsely populated areas as well as in our cities.

STATES NOW AFFILIATED

Alabama	Iowa	Oklahoma
Arkansas	Kansas	Pennsylvania
California	New Hampshire	South Dakota
Colorado	Michigan	Tennessee
Florida	Missouri	Texas
Illinois	Nevada	Virginia
Indiana	Ohio	Wisconsin

by Mary Kinn

Immediate Past President

BOOK REVIEWS

The Clinical Management of Varicose Veins; by David W. Barrow. 2nd Edition New York, N.Y. Paul B. Hoeber Inc. 1957, pp. 169, Price $6.00.

This book very adequately covers the history, anatomy, physiology, etiology, and pathology of varicose veins. It is well planned and describes specific therapeutic procedures which are illustrated in detail. Whereas this book does not cover the subject in its entirety, it emphasizes the practical aspects commonly seen by physicians who handle varicose vein problems.

CHARLES C. ABBOTT, M.D.

Pneumoencephalography; by E. Graeme Robertson, M. D. (Melb.) F. R. C. P., F. R. A. C. P., Springfield, Illinois, Charles C Thomas, 1957: pp 482, Price $14.50

"Pneumoencephalography", by E. Graeme Robertson, the neurologist of Melbourne, differs from previous American monographs on the subject by combining technique and normal anatomy with pathological deviations. The quality of the x-rays reproduced is superb and indicates a high standard of radiological technique in Australia.

The author favors the use of local anesthesia whenever possible, utilizing oxygen to displace the ventricular fluid. When this has been accomplished, he utilizes air to demonstrate the subarachnoid pathways. The effect of head posture during and after filling is demonstrated by films taken at short intervals.

Demonstration of filling of the subarachnoid pathways in the posterior fossa particularly is remarkably clear and the author has included Scandinavian neuroradiologist Lindgrin's evaluation of the temporal horns in an excellent chapter on this subject. The so called "axial" and "interaxial" views deserve careful study.

The quality and format of the book is generally excellent and may be highly recommended to all those interested in the subject.

RANDOLPH PAGE, M. D.

PUBLICATIONS RECEIVED

The C. V. Mosby Co., St. Louis: Synopsis of Treatment of Anorectal Diseases, by Stuart T. Ross, M. D.

W. B. Saunders Co., Phila.: An Atlas of Normal Radiographic Anatomy, by Isadore Meschan, M. D. (2nd edit.); Textbook of Pediatrics, edited by Waldo E. Nelson, M. D. (7th edit.); Collected Papers of the Mayo Clinic and The Mayo Foundation, Volume 50, 1958, compiled by George G. Stilwell, M. D.

The Williams & Wilkins Co., Balt.: Applied Anatomy for Nurses, by E. J. Bocock, S.R.N., and R. Wheeler Haines, M. B. (2nd edit.).

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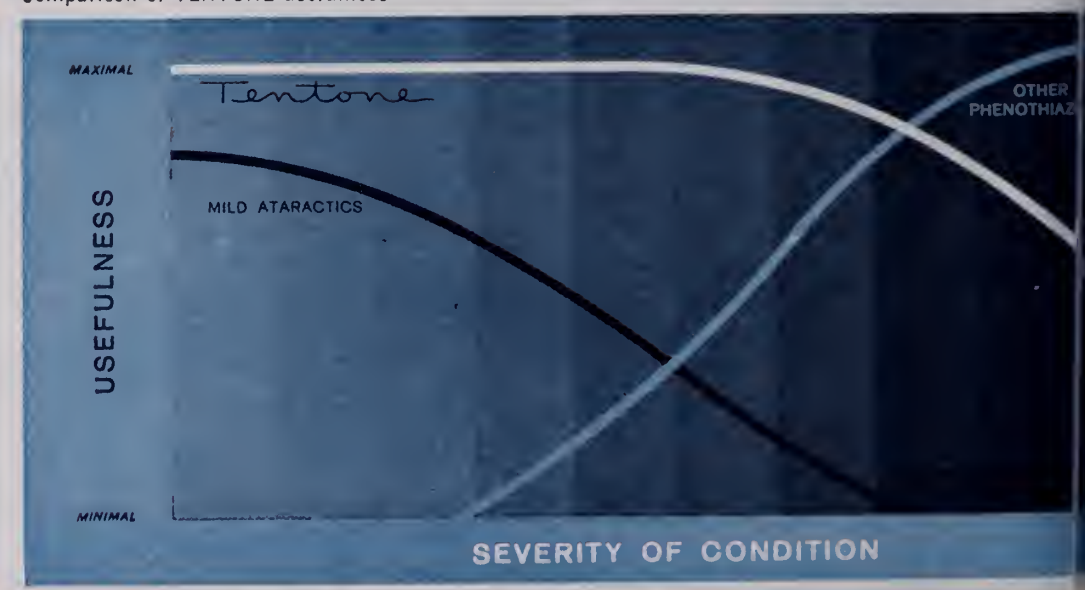
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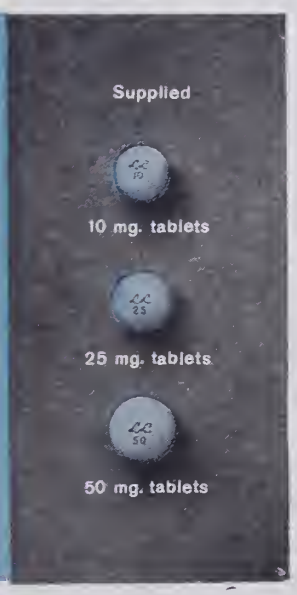
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References: 1. Finkelstein, M., et al.: J. Pharmacol. & Exper. Therap. 125:330 (April) 1959. 2. McHardy, G., et al.: Postgrad. Med., in press. 3. Winkelstein, A.: Amer. J. Gastroenterol., in press. 4. Finkelstein, M., et al.: Presented at Fall Meeting, Amer. Soc. Pharmacol. & Exper. Therap., 1958. 5. Leming, B.: Clin. Med. 6:423 (March) 1959.

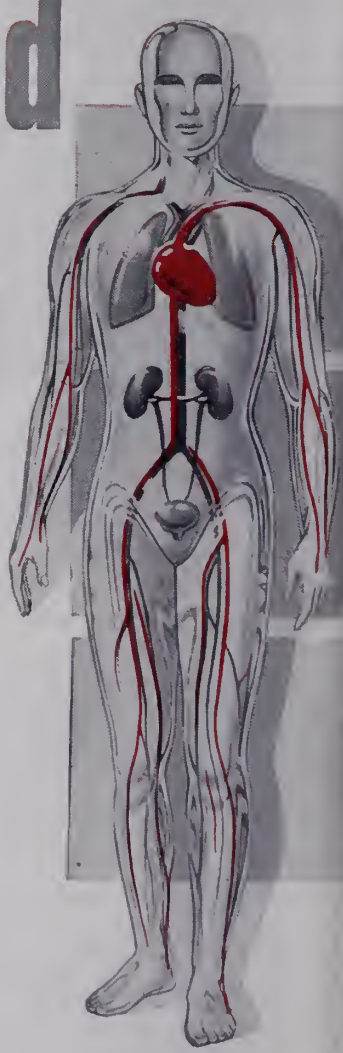
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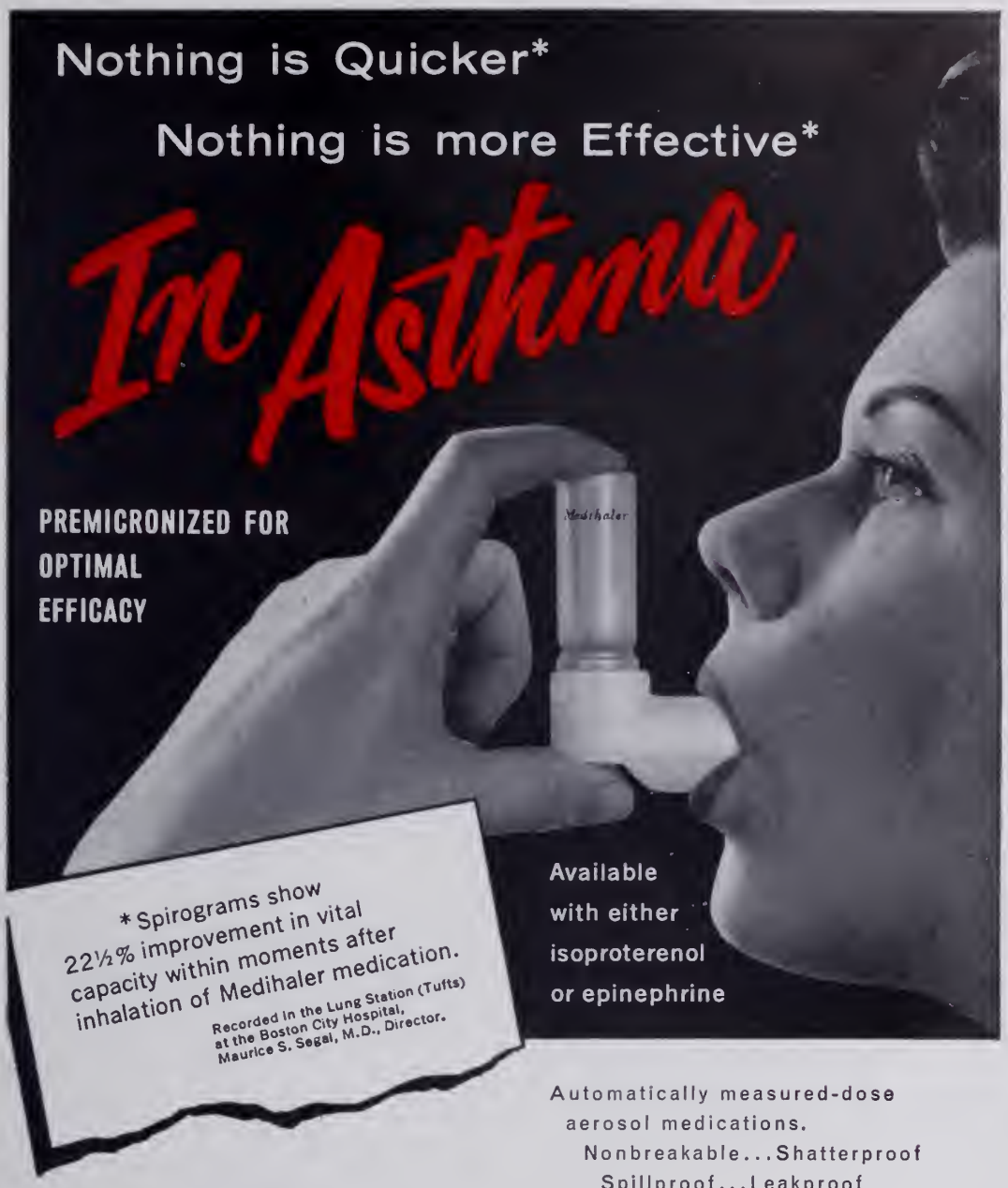
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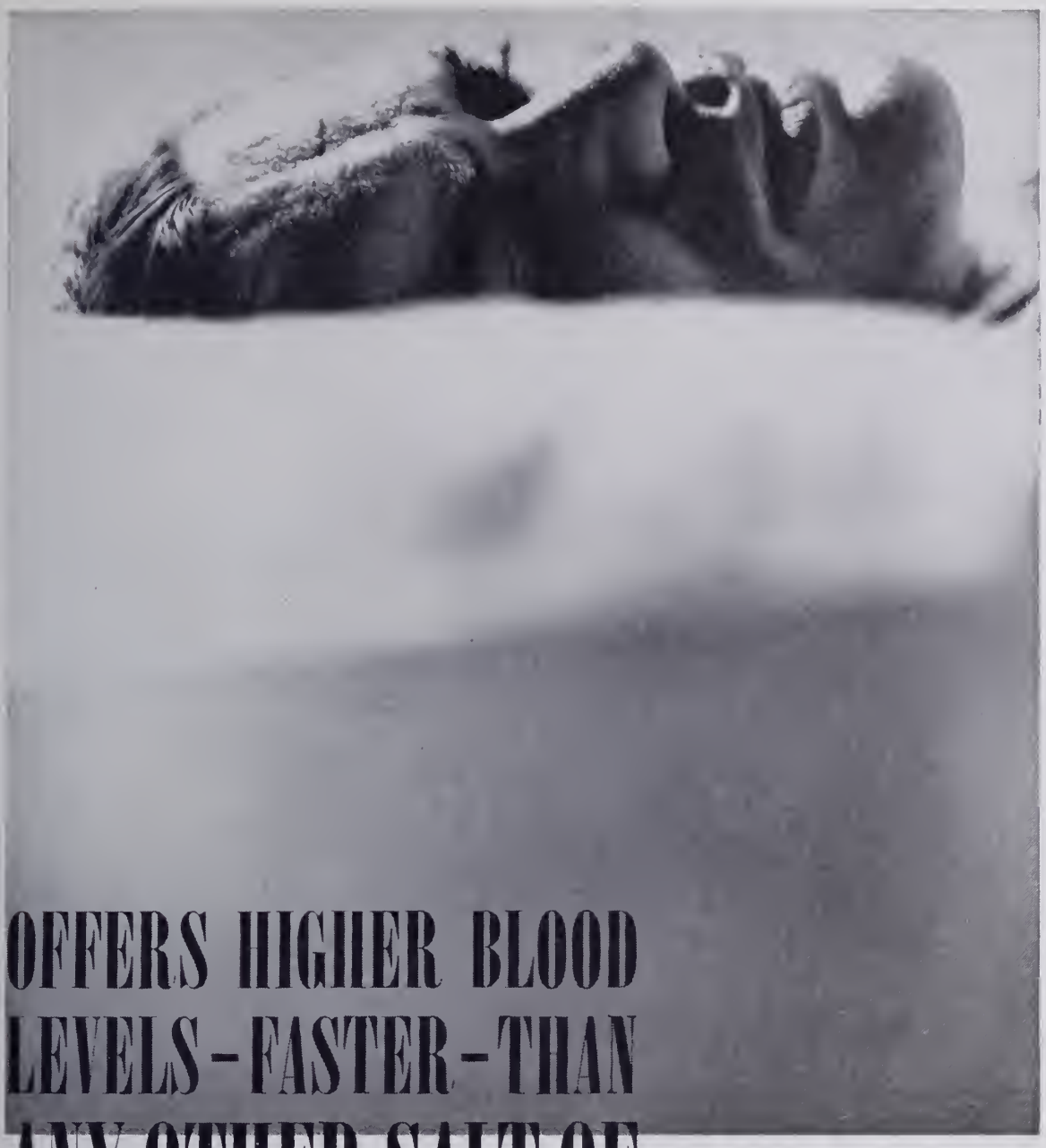
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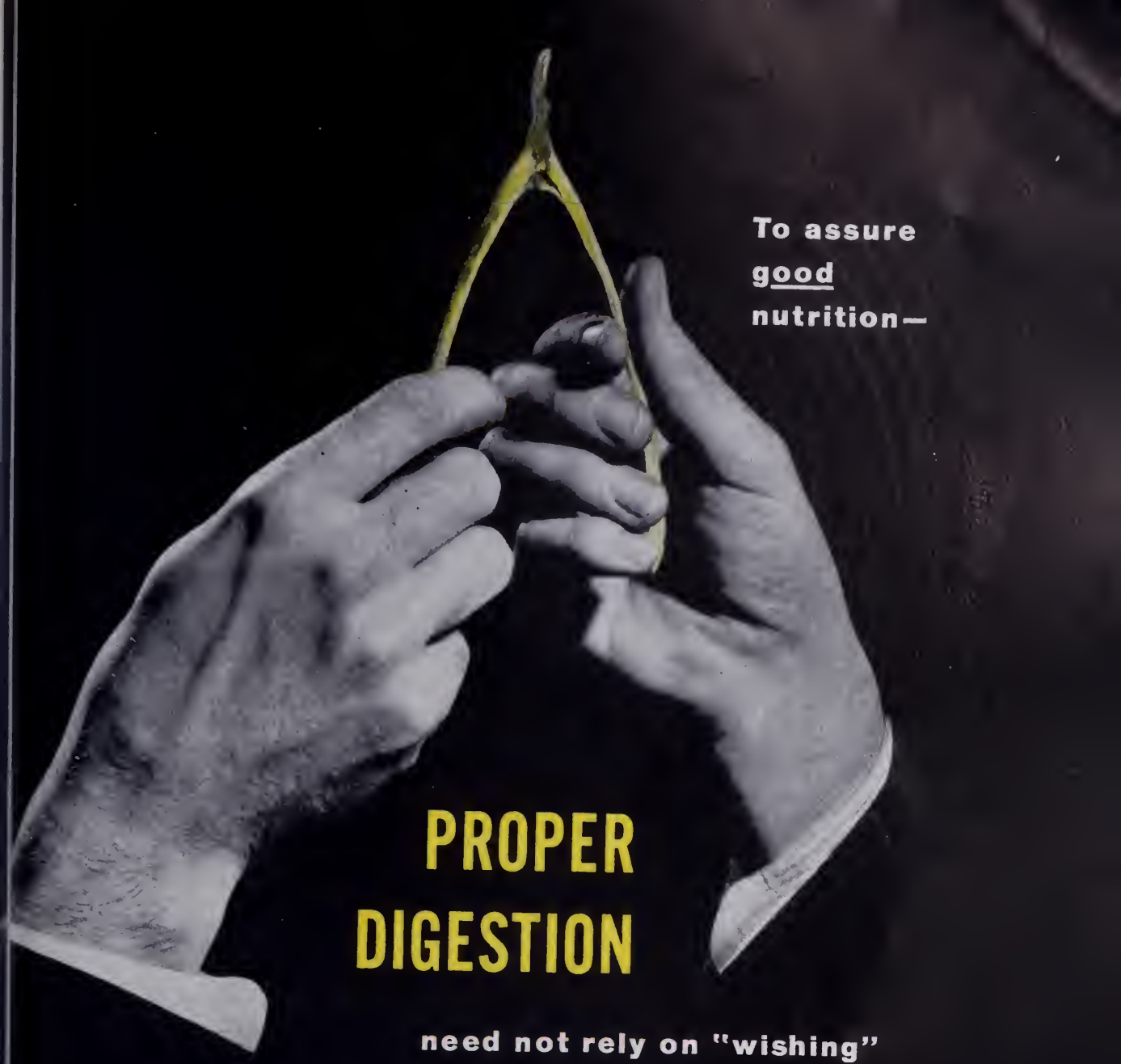
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As a comprehensive supplement to deficient natural secretion of digestive enzymes, particularly in older patients, ENTOZYME effectively improves nutrition by bridging the gap between adequate ingestion and proper digestion. Among patients of all ages, it has proved helpful in chronic cholecystitis, post-cholecystectomy syndrome, subtotal gastrectomy, pancreatitis, dyspepsia, food intolerance, flatulence, nausea and chronic nutritional disturbances.

For comprehensive digestive enzyme replacement—

ENTOZYME®

Robins

COVER THE SUMMER FRONT... WITH THREE HIGHLY EFFECTIVE CORTICOSTEROID TOPICALS



INFLAMMATORY AND ALLERGIC SKIN CONDITIONS

Aristocort® *CREAM*

Triamcinolone Acetonide 0.1%
TUBES OF 5 GM. AND 15 GM.

Aristocort® *OINTMENT*

Triamcinolone Acetonide 0.1%
TUBES OF 5 GM. AND 15 GM.

INFLAMMATORY, ALLERGIC, INFECTIVE EYE AND EAR CONDITIONS

Neo-Aristocort®

Neomycin-Triamcinolone Acetonide 0.1%
TUBES OF ⅛ OZ.

EYE-EAR OINTMENT

Each...sparingly applied...offers the unique efficacy of ARISTOCORT in topical situations...with 10-fold the potency of hydrocortisone topically yet *without* the hazards associated with systemic absorption

Lederle

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York



NOW... SAFER, EFFECTIVE TRANQUILIZER THERAPY



greater specificity
of tranquilizing action
—divorced from such
"diffuse" effects as
anti-emetic action
—explains why

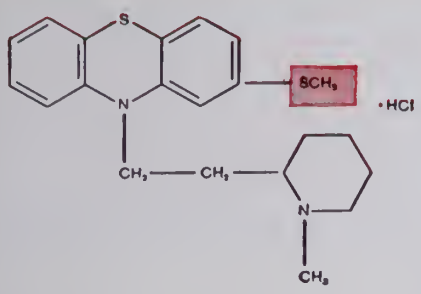
Mellaril®

THIORIDAZINE HCl

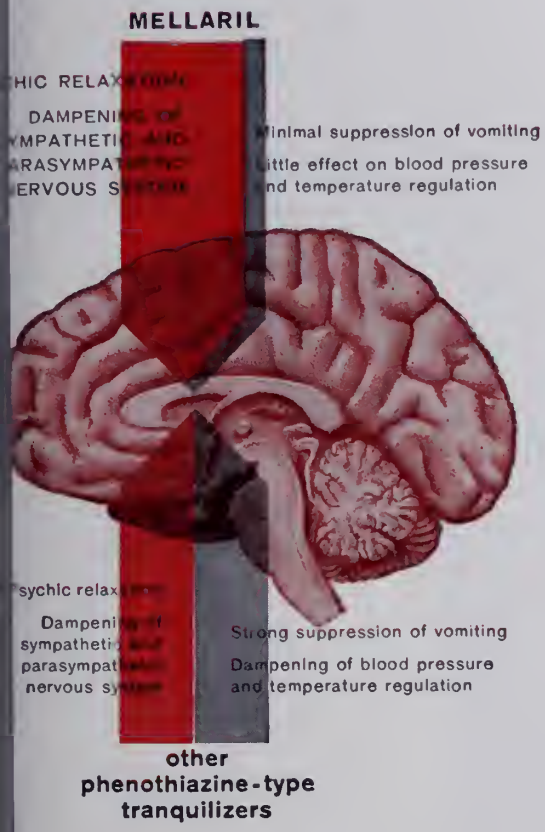
is virtually free of such toxic effects as · jaundice · Parkinsonism · blood dyscrasia

"Thioridazine [MELLARIL] is as effective as the best available phenothiazine, but with appreciably less toxic effects than those demonstrated with other phenothiazines.... This drug appears to represent a major addition to the safe and effective treatment of a wide range of psychological disturbances seen daily in the clinics or by the general practitioner."*

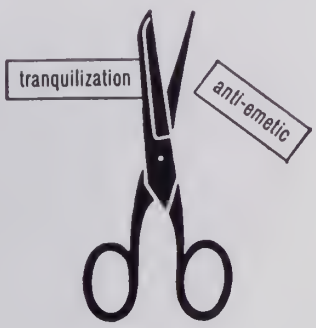
new advance in tranquilization:
reater specificity of tranquilizing action results in fewer side effects



The presence of a thiomethyl radical (S·CH₃) is unique in Mellaril and could be responsible for the relative absence of side effects and greater specificity of psychotherapeutic action. This is shown clinically by:



1 A specificity of action on certain brain sites in contrast to the more generalized or "diffuse" action of other phenothiazines. This is evidenced by a lack of appreciable anti-emetic effect.



2 Less "spill-over" action to other brain areas — hence, absence of undue sedation, drowsiness or autonomic nervous system disturbances.

3 A notable absence of extrapyramidal stimulation.

4 Lack of impairment of patient's normal drive and energy.

5 Virtual freedom from such toxic effects as jaundice, photosensitivity, skin eruptions, blood forming disorders.

INDICATION	USUAL STARTING DOSE	TOTAL DAILY DOSAGE RANGE
ADULTS: Mental and Emotional Disturbances:		
MILD—where anxiety, apprehension and tension are present	10 mg. t.i.d.	20-60 mg.
MODERATE—where agitation exists in psychoneuroses, alcoholism, intractable pain, senility, etc.	25 mg. t.i.d.	50-200 mg.
SEVERE—in agitated psychotic states as schizophrenia, manic depressive, toxic psychoses, etc.:		
Ambulatory	100 mg. t.i.d.	200-400 mg.
Hospitalized	100 mg. t.i.d.	200-800 mg.
CHILDREN: BEHAVIOR PROBLEMS IN CHILDREN	10 mg. t.i.d.	20-40 mg.

LLARIL Tablets, 10 mg., 25 mg., 100 mg.

ld, A. M.: Scientific Exhibit, American Academy eneral Practice, San Francisco, April 6-9, 1959

SANDOZ

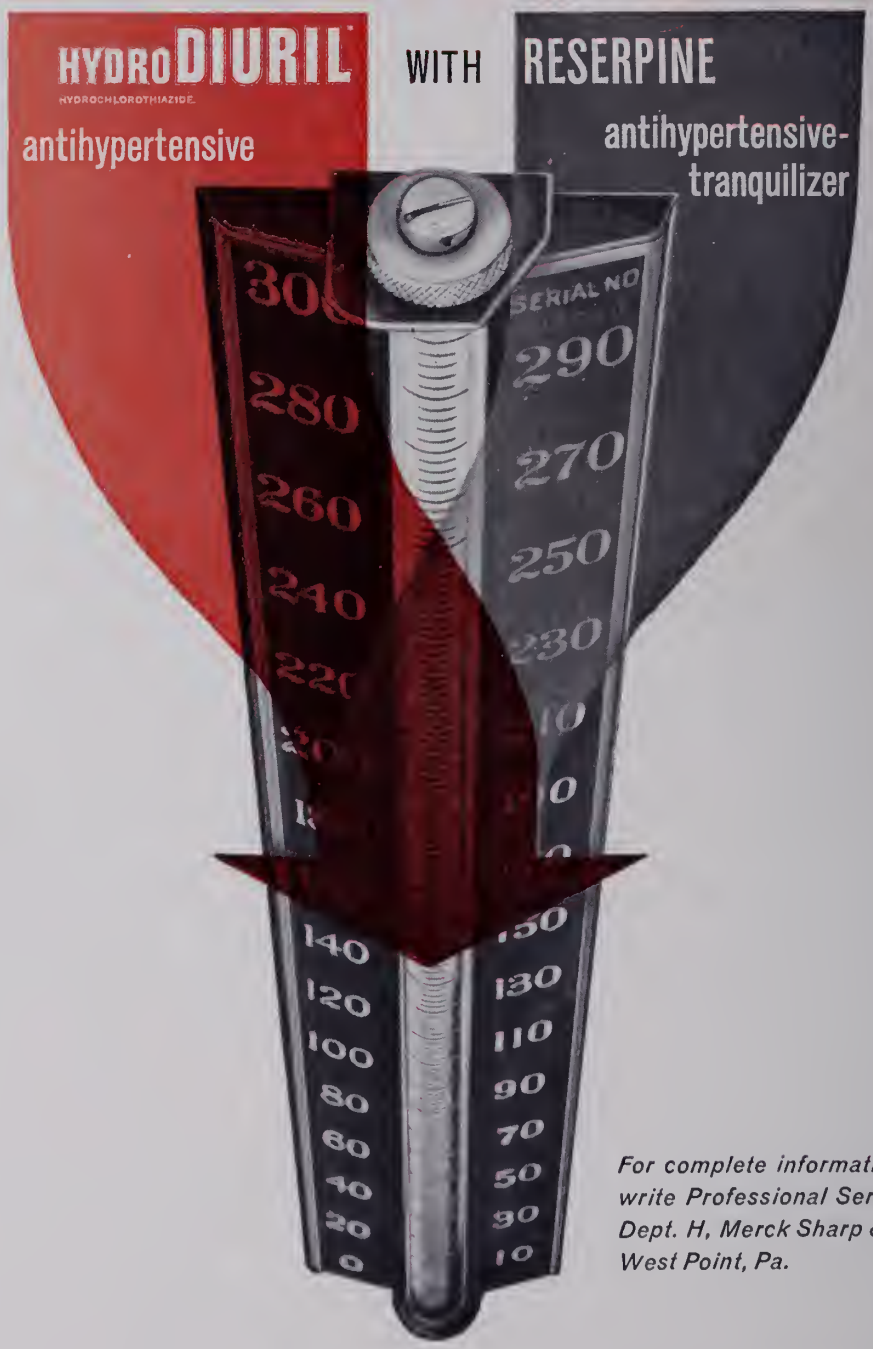
greater antihypertensive effect...fewer side effects

HYDROPRES*

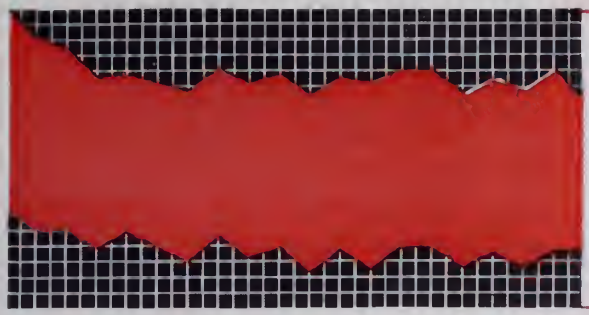
HYDRODIURIL
HYDROCHLOROTHIAZIDE
antihypertensive

WITH

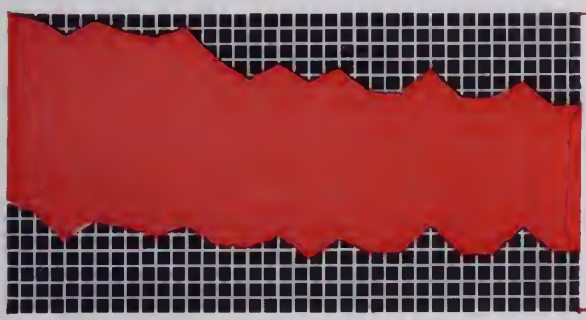
RESERPINE
antihypertensive-tranquilizer



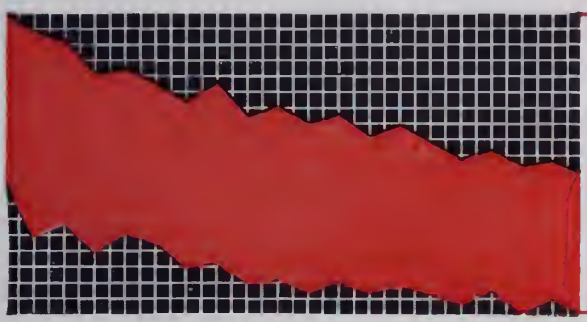
For complete information write Professional Services, Dept. H, Merck Sharp & Dohme, West Point, Pa.



HYDRODIURIL alone



RESERPINE alone



HYDROPRES

much more effective
than either of its
components alone

- Effective by itself in a majority of patients. Provides smooth, more trouble-free management of hypertension.
- Since HYDRODIURIL and reserpine potentiate each other, the required dosage of each is lower when given together as HYDROPRES than when either is given alone.
- HYDROPRES provides the needed and valuable tranquilizing effect of reserpine. Lower dosage may reduce such side effects of reserpine as excessive sedation and depression.
- Arrest or reversal of organic changes of hypertension may occur.
- Headache, dizziness, palpitations and tachycardia are usually promptly relieved. Anginal pain may be reduced in incidence and severity.
- With HYDROPRES, dietary salt may be liberalized.
- Convenient, controlled dosage.

HYDROPRES-25

25 mg. HYDRODIURIL, 0.125 mg. reserpine.
One tablet one to four times a day.

HYDROPRES-50

50 mg. HYDRODIURIL, 0.125 mg. reserpine.
One tablet one or two times a day.

If the patient is receiving ganglion blocking drugs or hydralazine, their dosage must be cut in half when HYDROPRES is added.

MSD MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

®HYDRODIURIL AND HYDROPRES ARE TRADEMARKS OF MERCK & CO., INC.

NIAMID*

the mood brightener

Lifts the burden of depression... opens the way for a sunnier outlook

New areas of therapy

NIAMID is clinically effective in a broad range depressive states, including: involutional mela cholia, senile depression, postpartum depressi reactive depression, the depressive stage of man depressive disease, and schizophrenic depressi reaction.

A wide variety of psychoneurotic depressions se in general practice also respond effectively NIAMID. Depression associated with the menopau and with postoperative states, and depression a companying chronic or incurable diseases such gastrointestinal and cardiovascular disorders, a thritis, and inoperable cancer, can now be treat successfully with NIAMID.

NIAMID is also strikingly effective for many co plaints, mild or severe, vague or well defined, wh due to masked depression rather than to orga disease. This masked depression may take the fo of guilt feelings, crying spells or sadness, difficul in concentration, loss of energy or drive, insomn emotional fatigue, feelings of hopelessness or hel lessness, loss of interest in normal activity, listle ness, apprehension or agitation, and loss of appet and weight.

While tranquilizers have had some measure effectiveness in many of these areas, NIAMID n gives the practicing physician a new, safe drug the specific treatment of depression without t risk of increasing the depressive symptoms.

New safety

The outstanding safety of NIAMID in extensi clinical trials eliminates the hepatotoxic reactio observed with the first of the monoamine oxida inhibitors. These reactions have not been seen wi NIAMID.

Acute and chronic toxicity studies show this d tinctive freedom from toxicity. Moreover, duri the extensive clinical trials of NIAMID by a lar number of investigators, not only has no liver da age been reported, but only in a very few isolat instances have hypotensive effects been seen.

The absence of toxicity may be the result of t unique carboxamide group in the NIAMID molecu This structure may explain why NIAMID is excret largely unchanged in the urine, with only insigni cant quantities of potentially free hydrazine bei formed. Previously, where a monoamine oxida inhibitor had been associated with hepatic toxici there was some evidence that substantial quantiti of free hydrazine were formed in the body.

Background of NIAMID

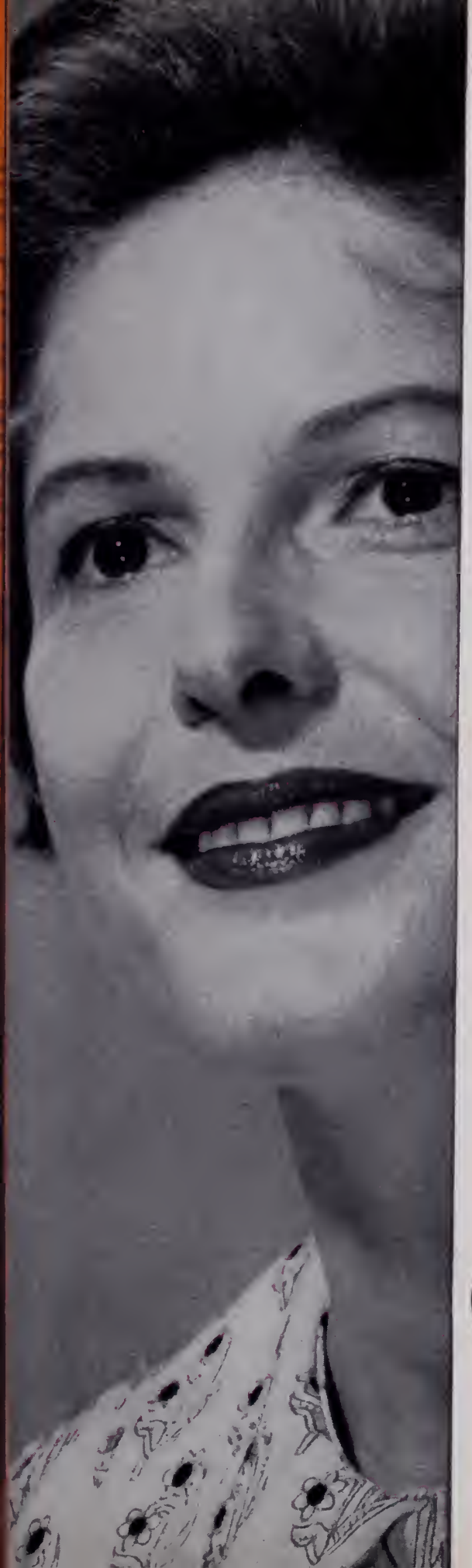
A major advance in the treatment of mental d pression came with a newer understanding of t influence of brain serotonin and norepinephrine the mood. Levels of both these neuro-hormones a decreased in animals under experimental con tions analogous to depression; relief of these mo depressions is seen with a rise in the levels of b serotonin and norepinephrine.

A second advance came with the development monoamine oxidase inhibitors, substances whi raise the cerebral level of both serotonin and.n epinephrine. The first of the amine oxidase inhi tors raised the cerebral level of serotonin, but d not appear to raise that of norepinephrine lev proportionately.

Pfizer *Science for the world's well-being* ™

PFIZER LABORATORIES

Division, Chas. Pfizer & Co., Inc., Brooklyn 6, N. Y.



Attention at Pfizer Research was then directed to a new drug that would overcome this disadvantage. NIAMID significantly raises the cerebral level of *both* serotonin and norepinephrine under experimental conditions.

The dramatic discovery of NIAMID now makes available an extremely effective, safe antidepressant for the successful treatment of a full range of depressive states.

Precautions

Side effects are most often minor and mild manifestations of central nervous system stimulation, modifiable by reduction in dosage; these may take the form of restlessness, insomnia, headache, weakness, vertigo, dry mouth, and perspiration. Care should be taken when NIAMID is used with chlorothiazide compounds, since hypotensive effects have been noted in some patients receiving combined therapy—even though hypotension has rarely been noted with NIAMID alone. There has been no evidence of liver damage in patients on NIAMID; however, in patients who have any history of liver disease, the possibility of hepatic reactions should be kept in mind.

Dosage and Administration

Start with 75 mg. daily in single or divided doses. After a week or more, revise the daily dosage upward or downward, depending upon the response and tolerance, in steps of one or one-half 25 mg. tablet. Once satisfactory response has been attained, the dosage of NIAMID may be reduced gradually to the maintenance level.

The therapeutic action of NIAMID is gradual, not immediate. Many patients respond within a few days, others satisfactorily in 7 to 14 days. Some patients, particularly chronically depressed or regressed psychotics, may need substantially higher dosages (as much as 200 mg. daily has been used) and prolonged administration before responses are achieved.

Supply

NIAMID is available in: 25 mg., pink, scored tablets in bottles of 100; and 100 mg., orange, scored tablets in bottles of 100.

References

Complete bibliography and Professional Information Booklet are available on request.

*TRADEMARK FOR BRAND OF NIALAMIDE

NIAMID
the mood brightener

general use...
in general practice

fast, effective and long-lasting relief from...

BURNS – sunburn, cooking, ironing

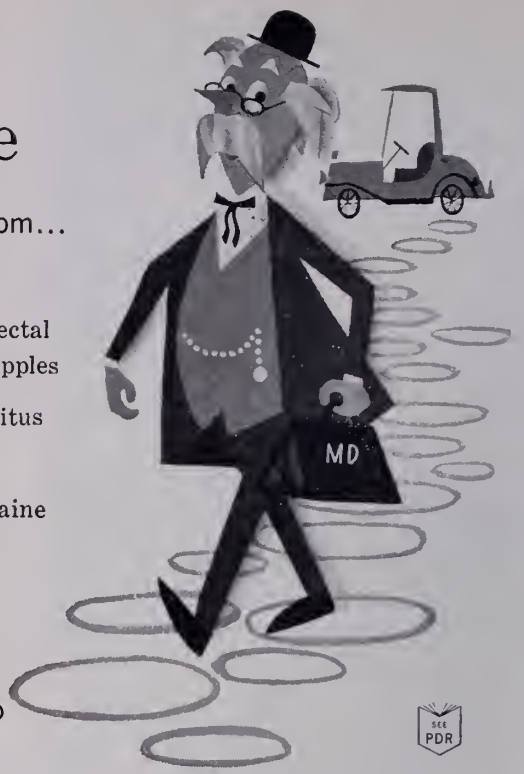
PAIN – hemorrhoids and inoperable anorectal conditions, cuts and abrasions, cracked nipples

ITCHING – insect bites, poison ivy, pruritus

The water-soluble, nonstaining base melts on contact with the tissue, releasing the Xylocaine for immediate anesthetic action. It does not interfere with the healing processes.

Astra Pharmaceutical Products, Inc.,
Worcester 6, Mass., U.S.A.

XYLOCAINE®
(brand of lidocaine*)
OINTMENT 2.5% & 5%



*U.S. PAT. NO. 2,441,498 MADE IN U.S.A.



they deserve

GEVRAL®

Vitamin-Mineral Supplement Lederle

CAPSULES—14 VITAMINS—11 MINERALS

LEDERLE LABORATORIES, a Division of
AMERICAN CYANAMID COMPANY, Pearl River, New York

Lederle



Prompt 4 way check of DIARRHEA

POMALIN TRADEMARK Liquid

New **RASPBERRY FLAVOR**

and pink color make POMALIN pleasant to take and appealing to both children and adults.

- ✓ Curbs excessive peristalsis
- ✓ Adsorbs toxins and gases
- ✓ Soothes inflamed mucosa
- ✓ Provides intestinal antisepsis

FORMULA:

Each 15 cc. (tablespoon) contains:

Sulfaguanidine	2 Gm.
Pectin	225 mg.
Kaolin	3 Gm.
Opium tincture	0.08 cc.
(equivalent to 2 cc. paregaric)	

SUPPLIED:

Bottles of 16 fl. oz.
Exempt Narcotic.
Available on Prescription Only.

DOSAGE:

ADULTS: Initially 1 or 2 tablespoons four to six times daily, or 1 or 2 teaspoons after each loose bowel movement; reduce dosage as diarrhea subsides.

CHILDREN: ½ teaspoon (=2.5 cc.) per 15 lb. of body weight every four hours day and night until stools are reduced to five daily, then every eight hours for three days.

Winthrop LABORATORIES
New York 18, N. Y.

For every topical indication, a Burroughs Wellcome 'SPORIN'...



OINTMENT: Tubes of ⅛ oz. and ½ oz. (with applicator tip) for ophthalmic or dermatologic application.

OTIC DROPS: Bottles of 5 cc. with sterile dropper.



OINTMENT: Tubes of ½ and 1 oz. and tubes of ⅛ oz. with ophthalmic tip.
OPHTHALMIC SOLUTION: Bottles of 10 cc. with sterile dropper.
NEW { **LOTION:** Plastic squeeze bottles of 20 cc.
POWDER: Shaker-top bottles of 10 Gm.



OINTMENT: Tubes of ½ oz., 1 oz. and ⅛ oz. (ophthalmic tip).

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.

CHOICE THERAPY FOR THE "OLDER" PATIENT WITH MILD TO MODERATE HYPERTENSION



℞ Veratrite®

More than 13,000,000 prescriptions attest that Veratrite continues to be the antihypertensive of choice for the older hypertensive patient. Veratrite can be prescribed safely and routinely for those who usually cannot tolerate more potent drugs.

Veratrite now contains cryptenamine which acts centrally to produce a gradual fall in blood pressure, yet improves circulation to vital organs, relieves dizziness and headache, and imparts a distinct sense of well-being. Furthermore, Veratrite achieves its effects with unusual safety and without annoying side effects.

Each Veratrite tabule contains: Cryptenamine (tannates), 40 C.S.R.* Units; Sodium nitrite, 1 gr.; Phenobarbital, ¼ gr. Dosage: 1–2 tabules t.i.d., preferably 2 hours after meals.

*Carotid Sinus Reflex

Neisler IRWIN, NEISLER & CO. • DECATUR, ILLINOIS



"finger-itis"

there's pain and inflammation here... it could be mild or severe, acute or chronic, primary or secondary fibrositis—or even early rheumatoid arthritis

more potent and comprehensive treatment than salicylate alone

. . . assured anti-inflammatory effect of low-dosage corticosteroid[1]

. . . additive antirheumatic action of corticosteroid plus salicylate[2-5] brings rapid pain relief; aids restoration of function.

. . . wide range of applica including the entire fibrositis syndrome as well as early or mil rheumatoid arthritis

more manageable corticosteroid dosa

. . . much less likelihood of treatment-interrup side effects[1-6]

. . . simple, flexible dosage schedule



in any case
it calls for

Sigmagen®

corticoid-salicylate compound

tablets

e conditions: Two or three
ts four times daily. After
ed response is obtained,
ually reduce daily dosage
then discontinue.
icute or chronic conditions:
ally as above. When satisfactory
rol is obtained, gradually reduce
laily dosage to minimum
tive maintenance level. For best
lts administer after meals and
edtime.
autions: Because SIGMAGEN
ains prednisone, the
e precautions and
raindications observed
this steroid apply also
ne use of SIGMAGEN.

Composition

METICORTEN® (prednisone)	0.75 mg.
Acetylsalicylic acid	325 mg.
Aluminum hydroxide	75 mg.
Ascorbic acid	20 mg.

Packaging: SIGMAGEN Tablets, bottles of 100 and 1000.

References: 1. Spies, T. D., et al.: J.A.M.A. 159:645, 1955. 2. Spies, T. D., et al.: Postgrad. Med. 17:1, 1955. 3. Gelli, G., and Della Santa, L.: Minerva Pediat. 7:1456, 1955. 4. Guerra, F.: Fed. Proc. 12:326, 1953. 5. Busse, E. A.: Clin. Med. 2:1105, 1955. 6. Sticker, R. B.: Panel Discussion, Ohio State M. J. 52:1037, 1956.

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A Vacation from Hay Fever is a Real Vacation

ANYWHERE – ANYTIME

Just a "poof" of fine **NTZ** *spray brings relief* IN SECONDS, FOR HOURS

NTZ is a potentiated, balanced combination of these well known synergistic compounds:

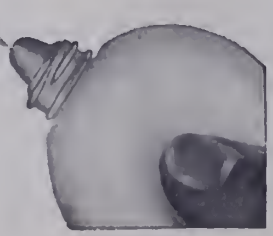
Neo-Synephrine® HCl, 0.5%
– dependable vasoconstrictor and decongestant.

Thenfadil® HCl, 0.1%
– potent topical antihistaminic.

Zephiran® Cl, 1:5000
– antibacterial wetting agent and preservative.

NTZ® NASAL SPRAY

Supplied in leakproof, pocket size squeeze bottles of 20 cc.



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re-evaluating tranquilizers?

READ WHAT CLINICIANS ARE NOW SAYING ABOUT ATARAX®

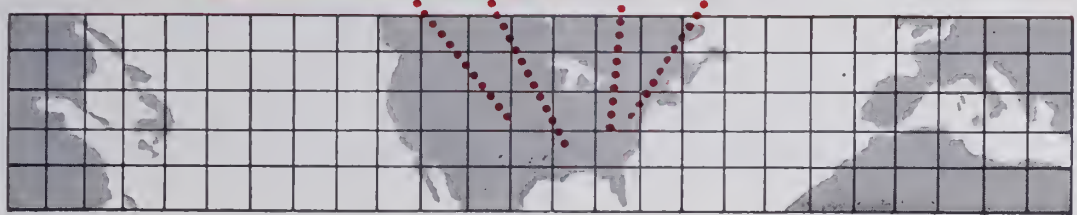
(brand of hydroxyzine)

IN GERIATRICS
"ability to decide correctly has increased, while the illogical response to anxiety has diminished."[1]

IN WORKING ADULTS
"especially well suited for ambulatory patients who must work, drive a car, or operate machinery."[3]

IN PEDIATRICS
"ATARAX appeared to reduce anxiety and restlessness, improve sleep patterns and make the child more amenable to the development of new patterns of behavior . . ."[2]

IN GENERAL
ATARAX is "effective in controlling tension and anxiety . . . Its safety makes it an excellent drug for out-patient use in office practice."[4]



INVESTIGATORS AGREE ON OPTIMAL ATARAX DOSAGES

For childhood behavior disorders	10 mg. tablets	3-6 years, one tablet t.i.d. over 6 years, two tablets t.i.d.
	Syrup	3-6 years, one tsp. t.i.d. over 6 years, two tsp. t.i.d.
For adult tension and anxiety	25 mg. tablets	one tablet q.i.d.
	Syrup	one tbsp. q.i.d.
For severe emotional disturbances	100 mg. tablets	one tablet t.i.d.
For adult psychiatric and emotional emergencies	Parenteral Solution	25-50 mg. (1-2 cc.) intramuscularly, 3-4 times daily, at 4-hour intervals. Dosage for children under 12 not established.

Supplied: Tablets, bottles of 100. Syrup, pint bottles. Parenteral Solution, 10 cc. multiple-dose vials.

References: 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America 5:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. 57:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. 58:1684 (May 15) 1958. 5. Coirault, M., et al.: Presse méd. 64:2239 (Dec. 26) 1956. 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

ATARAX®



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Science for the World's Well-Being

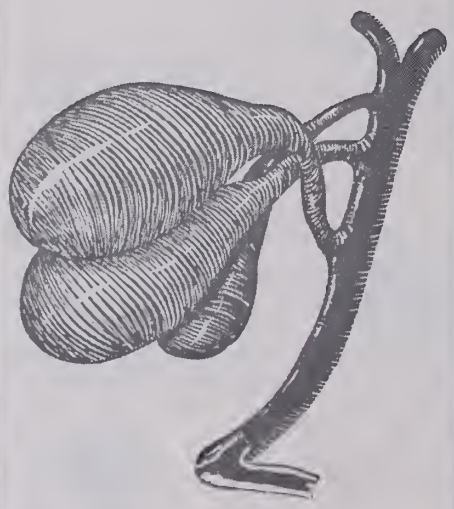
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CLINICAL BRIEFS FOR MODERN PRACTICE

HOW PREVALENT ARE MULTIPLE GALLBLADDER ANOMALIES?

One hundred and twenty-two cases of *vesica fellea divisa* (bilobed gallbladder) and *vesica fellea duplex* (double gallbladder with 2 cystic ducts) are reported in the literature. A unique case of *vesica fellea triplex* has recently been described.

Source: Skilboe, B.: Am. J. Clin. Path. *30*:252, 1958.



in medical management and postoperative care of biliary disorders...

"effective" hydrocholeresis...

DECHOLIN®

(dehydrocholic acid, AMES)

"...dehydrocholic acid...does considerably increase the volume output of a bile of relatively high water content and low viscosity. This drug is therefore a good 'flusher,' and is effectively used in treating both the chronic unoperated patient and the patient who has a T-tube drainage of an infected common bile duct."[1]

free-flowing bile
plus reliable spasmolysis

DECHOLIN® WITH BELLADONNA

"...DECHOLIN/Belladonna in a dosage of one tablet t.i.d. for a period of two to three months may prove helpful in relieving postoperative symptoms, aiding the digestion, and facilitating elimination."[2]

(1) Beckman, H.: Drugs: Their Nature, Action and Use, Philadelphia, W. B. Saunders Company, 1958, p. 425.
(2) Biliary Tract Diseases, M. Times *85*:1081, 1957.

AMES COMPANY, INC
Elkhart • Indiana
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Against the "Vaginitis Spectrum"

TRICHOMONAS
MONILIA
BACTERIA

A welcome clinical advance...
effective medication
in an appealing form



Soft and pliant as a tampon, the Milibis vaginal suppository offers proved therapeutic action* in a vehicle giving unusual clinical advantages to both patients and physician.

COVERS CERVIX AND VAGINAL WALL—The pliant Milibis suppository disintegrates readily and molds itself to the cervix as well as the columns and rugae of the vaginal vault.

SHORT DOSAGE SCHEDULE—The short course of treatment with Milibis—only 10 suppositories in most cases—together with the clean, odorless, non-staining qualities eliminates psychic barriers which often interrupt longer treatments before complete cure.



SUPPLIED: BOXES OF 10 with applicator.

Now supplied with plastic applicator

- SANITARY
- INSURES CORRECT SUPPOSITORY PLACEMENT

MILIBIS® Vaginal Suppositories

Winthrop LABORATORIES
New York 18, N. Y.

*97 per cent effective in a study of 564 cases; 94 per cent effective in a series of 510 cases.

Milibis (brand of glycobiarsol), trademark reg. U.S. Pat. Off.

If they need nutritional support . . . they deserve



GEVRAL®

Vitamin-Mineral Supplement Lederle

CAPSULES—14 VITAMINS—11 MINERALS

Each capsule contains:	
Vitamin A	5,000 U.S.P. Units
Vitamin D	500 U.S.P. Units
Vitamin B_{12} with AUTRINIC® Intrinsic Factor Concentrate	1/15 U.S.P. Oral Unit
Thiamine Mononitrate (B_1)	5 mg.
Riboflavin (B_2)	5 mg.
Niacinamide	15 mg
Folic Acid	1 mg.
Pyridoxine HCl (B_6)	0.5 mg.
Ca Pantothenate	5 mg.
Choline Bitartrate	50 mg.
Inositol	50 mg.
Ascorbic Acid (C)	50 mg.
Vitamin E (as tocopheryl acetates)	10 I.U.
l-Lysine Monohydrochloride	25 mg.
Rutin	25 mg.
Ferrous Fumarate	30 mg.
Iron (as Fumarate)	10 mg.
Iodine (as KI)	0.1 mg.
Calcium (as $CaHPO_4$)	157 mg.
Phosphorus (as $CaHPO_4$)	122 mg.
Boron (as $Na_2B_4O_7.10H_2O$)	0.1 mg.
Copper (as CuO)	1 mg.
Fluorine (as CaF_2)	0.1 mg.
Manganese (as MnO_2)	1 mg.
Magnesium (as MgO)	1 mg.
Potassium (as K_2SO_4)	5 mg.
Zinc (as ZnO)	0.5 mg.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

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One out of three *who died of cancer last year* ***could have been saved!***

To alert the practicing physician to suspect and diagnose cancer early—the American Cancer Society has available for you a film series of Physicians' Conferences on Cancer.

*Kinescopes of live, color, closed-circuit television programs, on early diagnosis and treatment of cancer, present outstanding clinicians.

These 24 film programs—the nucleus of a course on cancer for the General Practitioner—cover virtually all cancer sites and types. They center around panel discussions, laboratory techniques, case histories, x-ray findings, histopathology, statistical data, and operative procedures.

Professional Films and services available to the doctor in his own community may be obtained through your Division of the

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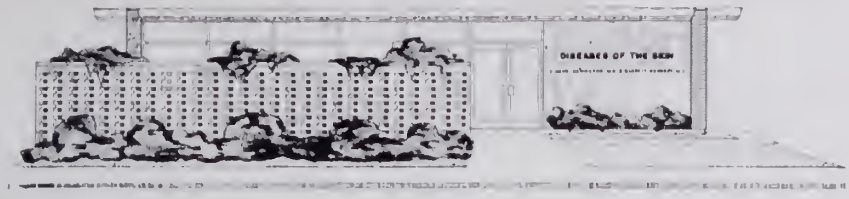
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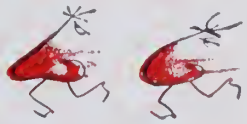


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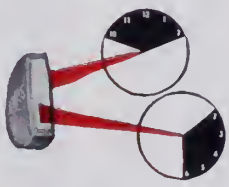
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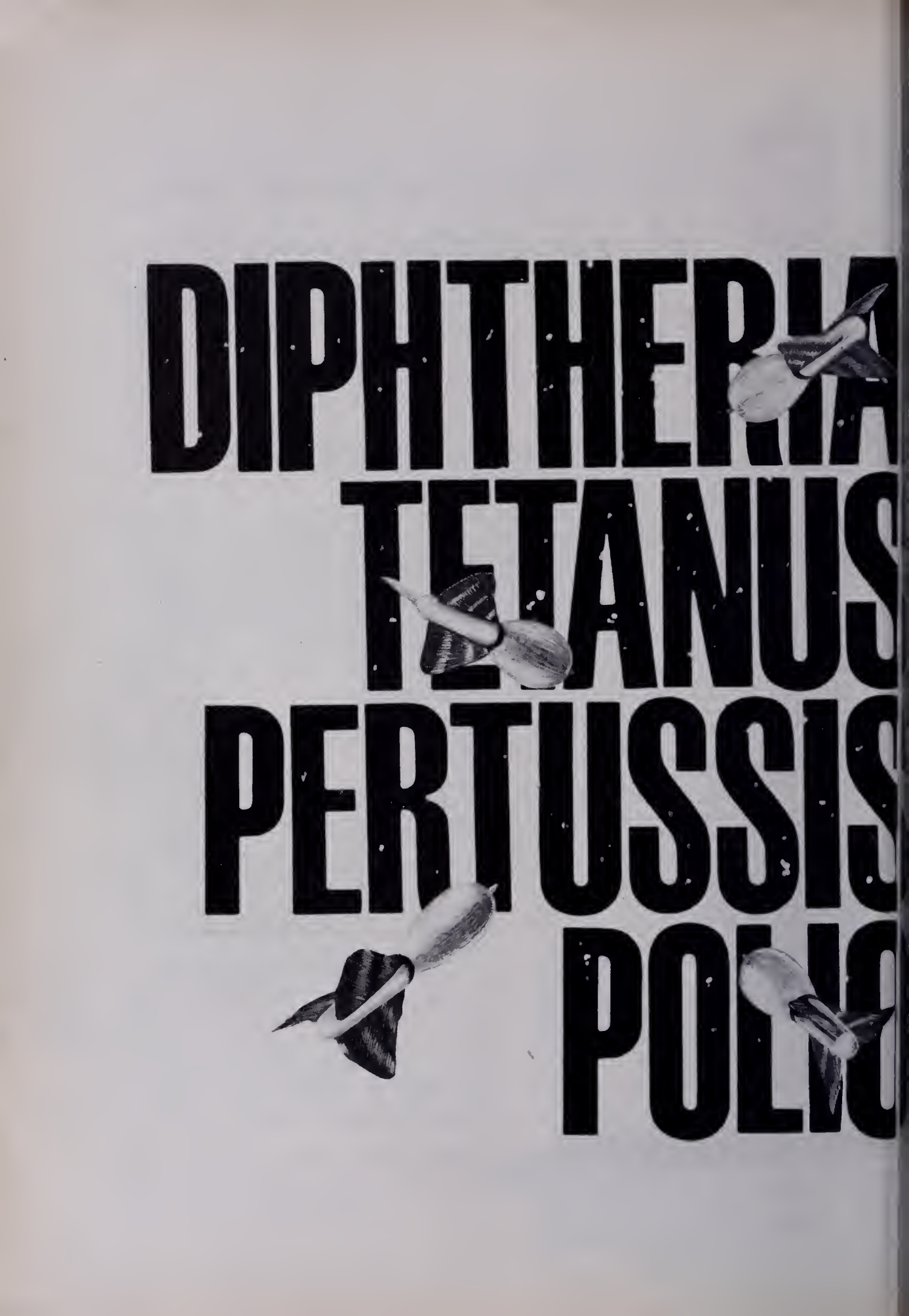
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*Barrett, C. D., Jr., *et al.*: *J.A.M.A.* 167:1103, 1958; *ibid.*; Am. J. Pub. Health 49:644, 1959.

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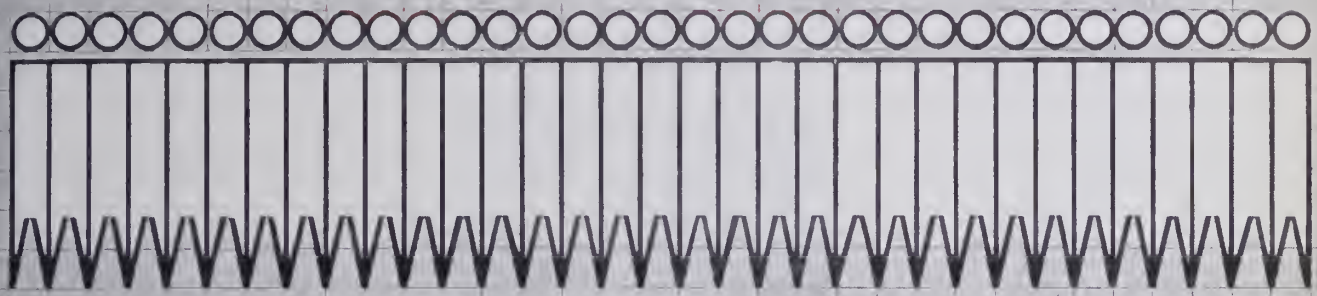
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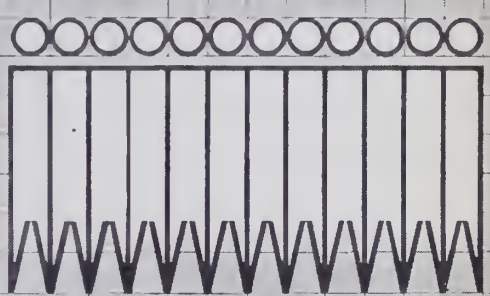
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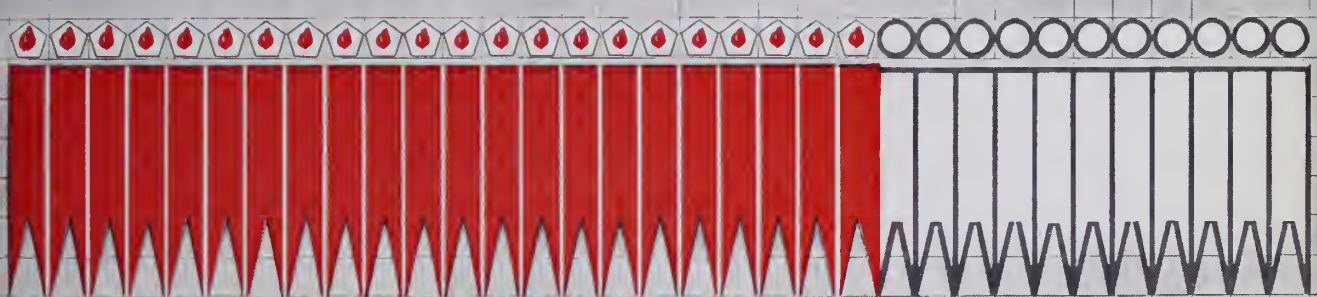
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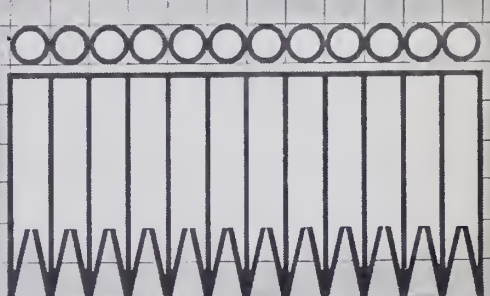
22 were successfully
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1. Boland, E. W., and Headley, N. E.: Paper read before the Am. Rheum. Assoc., San Francisco, Calif., June 21, 1958.
2. Bunim, J. J., et al.: Paper read before the Am. Rheum. Assoc., San Francisco, Calif., June 21, 1958.

*Cortisone, prednisone and prednisolone.

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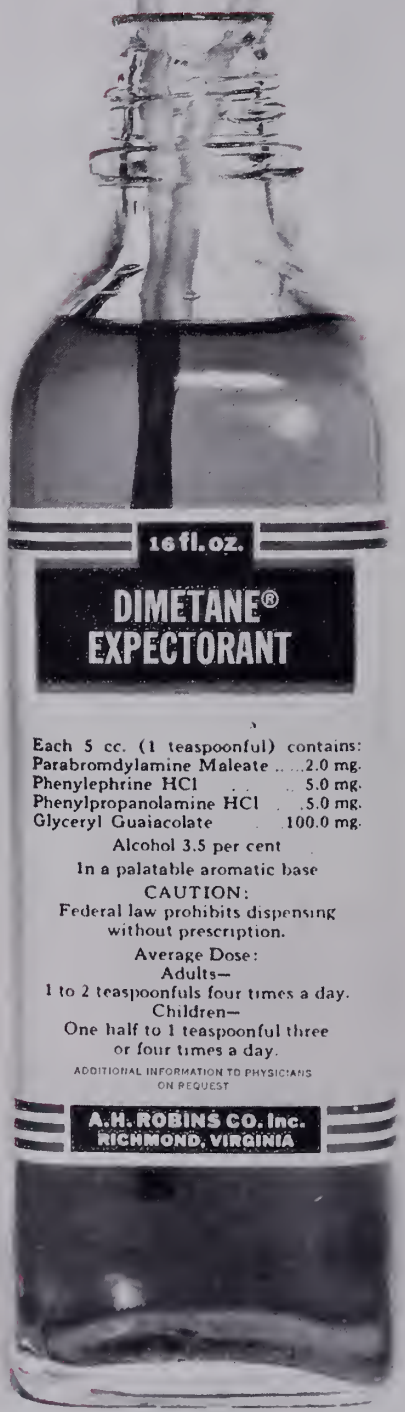
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References: 1. Menger, H. C.: Clin. Med. 4:313 (March) 1957. 2 Charles, C. M.: Geriatrics 2:110 (March) 1956. 3. Shuster, B. H.: M. Clin. North America 40:1787 (Nov.) 1956. 4. Dolowitz, D. A.: Rocky Mountain M. J. 55:53 (Oct.) 1958.

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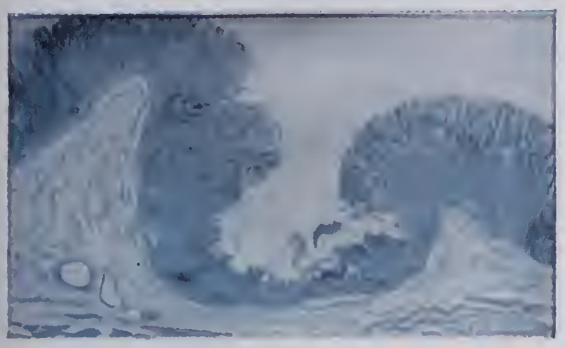
Regular aspirin crystals 24 hours after being mixed into water.



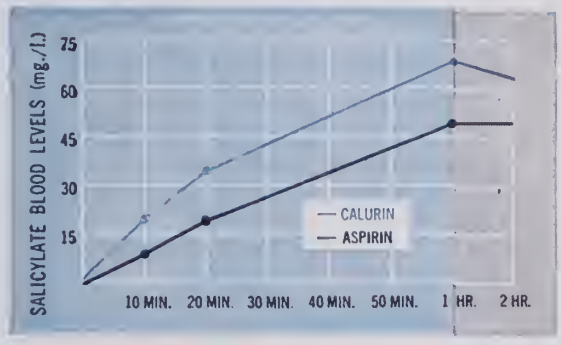
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Bibliography: (1) Riehl, G.: Griseofulvin: An Orally Active Antibiotic, presented at Austrian Dermat. Soc. Meet., Vienna, Nov. 27, 1958. (2) Williams, D. I.; Marten, R. H., and Sarkany, I.: Lancet *2*:1212, 1958. (3) Blank, H., and Roth, F. J., Jr.: A.M.A. Arch. Dermat. *79*:259, 1959. (4) Goldfarb, N., and Rosenthal, S. A.: Current M. Digest *26*:67, 1959. (5) Reiss, F: Medical Circle Bulletin *6*:9, 1959. (6) Robinson, H. M., Jr.; Robinson, R. C. V.; Bereston, E. S.; Manchey, L. L., and Bell, F. K.: Griseofulvin, Clinical and Experimental Studies, presented at Am. Dermat. Assoc. Meet., Atlantic City, N. J., June 3, 1959.

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The Surgical Treatment of Acquired Heart Disease Utilizing Extracorporeal Circulation*

• Surgical technics and cardiopulmonary bypass, previously employed with success in the treatment of congenital heart lesions are now applied to the correction of acquired heart disease. Case reports are given of some of the excellent work done by the Department of Surgery of Tulane University.

OSCAR CREECH, JR., M. D.
ROBERT SCHRAMEL, M. D.
KEITH REEMTSMA, M. D.
MAURICE ADAM, M. D.
New Orleans

WITH the exception of rheumatic mitral stenosis, treatment of acquired heart disease has been notably ineffective largely because of inability to correct valvular dysfunction under direct vision. The successful results obtained in the treatment of congenital heart lesions utilizing cardiopulmonary bypass have been followed logically by the extension of these techniques to the treatment of acquired heart disease. The use of an extracorporeal circuit to bypass the heart and lungs has made it possible for the surgeon to determine at operation the type and extent of valvular abnormality and to carry out a precise correction of the deformity. This report is concerned with our experience in the treatment of acquired heart disease utilizing a pump-oxygenator for cardiopulmonary bypass.

Special Diagnostic Procedures

In order to evaluate a patient with acquired valvular heart disease from a surgical standpoint, it is essential that the diagnosis be confirmed and the extent of physiologic derangement produced by the valvular abnormality determined. Thus, in addition to routine roentgenographic and electrocardiographic studies, catheterization of the right and the left heart chambers is necessary. The technic for right heart catheterization is standardized and is routinely employed in most institutions when involvement of the mitral valve is suspected. Catheterization of the left heart chambers, however, has been developed more recently and there are several technics available. In our laboratory two procedures have been employed,

* Presented at the Seventy-eighth Annual Meeting of the Louisiana State Medical Society, in Shreveport, May 6, 1958.

namely, the transbronchial, left atrial puncture method described by Allison and Morrow [1] and the transthoracic left ventricular puncture method described by Sir Russell Brock. In the former, a needle is inserted under bronchoscopic control through the antero-inferior wall of the left main bronchus into the left atrium. A catheter is then passed through the needle into the left atrium and pressures are recorded successively from the left atrium, left ventricle, and ascending aorta. These data are confirmed by pullback tracings recorded as the catheter is removed. By this technic the diagnosis and quantitation of mitral stenosis, mitral insufficiency, aortic stenosis, and aortic insufficiency are determined. This procedure has proved safe and relatively free from complication.

For measurement of the pressure gradient across the aortic valve in patients with aortic stenosis, the transthoracic left ventricular puncture is extremely useful. A number 20 gauge needle 6 inches in length is introduced through the anterolateral aspect of the left chest into the left ventricle. With a needle in the left brachial artery, pressures can be measured simultaneously from the left ventricle and the systemic artery and the gradient across the valve determined. This technic is simple and can be carried out rapidly but its associated complications are more frequent and serious than are those occurring with the use of the transbronchial technic.

Acquired fistulas between the aortic sinuses and the heart chambers may be detected by cardiac catheterization if the right heart chambers are involved or by angiocardiography if the left heart chambers are affected. Cinefluorography or serial roentgenography with injection of contrast material through a catheter passed into the ascending aorta via the brachial artery will clearly establish the diagnosis in either instance.

The following case reports illustrate the use of these special diagnostic methods and the corrective surgical technics applied in patients with acquired heart disease.

Aortic Valvular Disease

Case No. 1.—J. M., a 41-year-old man, was admitted to Touro Infirmary on March 28, 1958. He had had occasional attacks of syncope on exertion extending over a period of six years. These attacks were infrequent until six months preceding admission when they began to appear after mild exertion and were accompanied by severe precordial pain relieved only by complete rest and nitrites. There was no history of rheumatic fever.

On physical examination blood pressure was 110/70. There was a harsh systolic murmur heard over the entire precordium with maximal intensity at the aortic valve area and transmitted along the great vessels to the neck. The point of maximum impulse was forceful and displaced downward into the left anterior axillary line.

Chest roentgenogram revealed left ventricular enlargement with calcification of the aortic valve. Electrocardiogram was indicative of left ventricular enlargement and this was associated with frequent premature ventricular contractions.

On March 25, 1958, catheterization of the left ventricle was performed, and revealed a gradient across the aortic valve of 100 millimeters of mercury.

Operative exposure of the aortic valve was performed on April 1, with the aid of extracorporeal circulation and elective cardiac asystole induced with potassium citrate solution injected into the coronary circulation. The orifice of the aortic valve was only 8 millimeters in diameter (Fig. 1). Despite heavy calcification, it was possible to identify the commissures. These were incised with heavy scissors and the opening was then dilated to a diameter of 1.5 centimeters. With careful resuscitation the heart resumed effective contraction and the operation was terminated.

Postoperatively the patient developed excessive fibrinolysis and bleeding occurred into the anterior mediastinum. This was corrected by administration of fibrinogen, fresh whole blood, and evacuation of the anterior mediastinal hematoma. He was discharged on April 18.

Case No. 2.—A 36-year-old man was admitted to Charity Hospital, on July 25, 1957, with a diagnosis of aortic insufficiency. Two years previously he experienced constricting substernal pain while performing heavy labor. The symptoms were relieved by rest and recurred with resumption of activity. When advised of his condition he restricted his activity and remained asymptomatic until six months before admission when symptoms recurred with increasing severity. The administration of nitroglycerine and digitalis produced relief of symptoms. One month before admission following prolonged physical

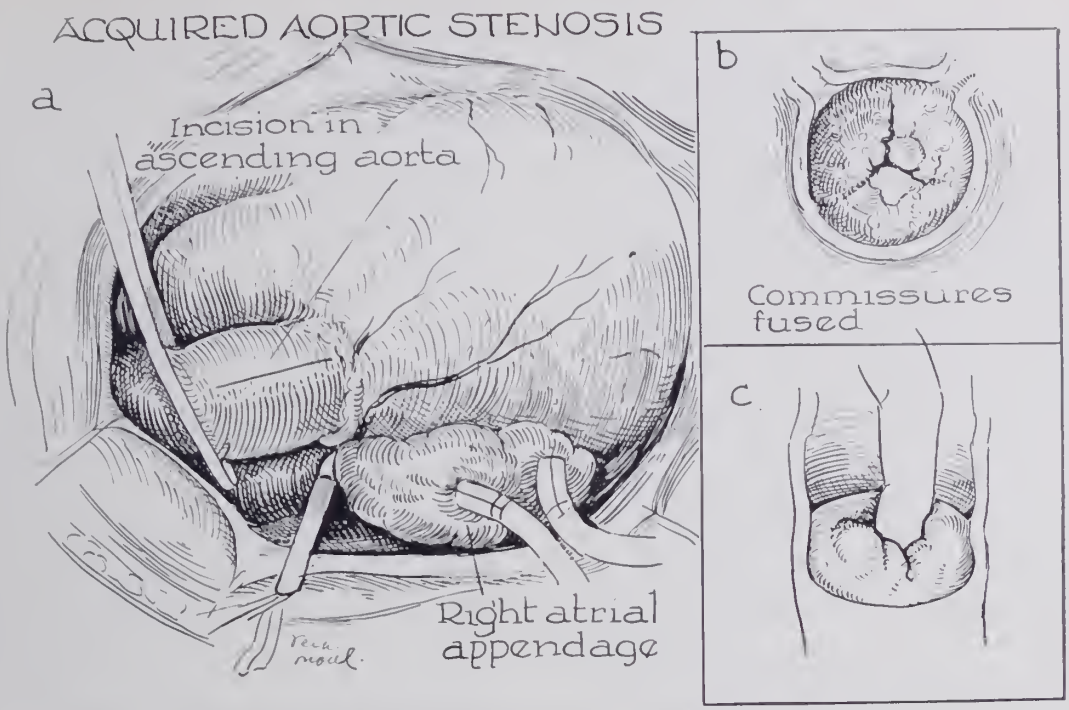


Figure 1.—Diagramatic representation of the aortic valve in calcific aortic stenosis.

activity a third attack of intense chest pain developed which required bed rest. In 1929, the patient was ill for about one month with prolonged fever. He was rejected for military service in 1943 for unknown reasons. There was no history of joint pains or venereal lesions.

Physical examination revealed vigorous nodding of the head with each cardiac contraction, visible heaving of the precordium, and visible pulsations of the subclavian triangle. The heart was enlarged downward to the anterior axillary line at the sixth intercostal space. There was a grade 3 basal systolic murmur widely transmitted particularly into the neck; and a systolic thrill was palpable over the neck vessels. A grade 2 diastolic murmur was loudest in the third intercostal space along the right sternal border and was transmitted unchanged to the apex. Auscultory blood pressure in the right arm was 176/30/0 mm. mercury and was the same in the left arm. Pressure in the lower extremity was 340/80/0.

Roentgenograms of the chest revealed cardiac enlargement and widening of the ascending aorta (Fig. 2). In the electrocardiogram there were wide QRS complexes with inversion of T_1, T_2, T_3, a high RV 5 and the presence of Q waves in leads 2 and 3. These findings were interpreted as evidence of myocardial disease, left ventricular hypertrophy and myocardial ischemia.

On August 8, 1957, operation was performed utilizing extracorporeal circulation. Through a bilateral anterior thoracotomy in the right fourth and left third intercostal spaces with transection of the sternum the intrapericardial portion of the aorta was exposed. The aortic annulus was exposed by mobilization of the right atrial appendage and the atrial wall in contact with the posterior surface of the aorta. The aorta was mo-



Figure 2.—Posteroanterior roentgenogram of the chest showing dilatation of the root of the aorta and the cardiac configuration of aortic valvular incompetence.

bilized from the annulus to the origin of the innominate artery and a tape passed about it. After extracorporeal circulation was instituted the ascending aorta was cross-clamped and the heart was stopped by injection of potassium citrate.

An incision was made in the aorta extending into the posterior sinus of Valsalva. Exploration of the valve revealed normal aortic cusps but a severely dilated annulus and widening of the commissures. It was noted that insufficiency was occurring at the commissures as well as in the central portions of the lumen where the cusps failed to coapt because of dilatation of the annulus. Using mattress sutures reinforced with bolsters of Ivalon the noncoronary sinus of Valsalva was obliterated thus reducing the aortic diameter about one-third. Thus the right and left leaflets were approximated on the folded posterior cusp which projected into the lumen to provide additional competence (Fig. 3). The aortic incision was closed and coronary circulation re-established. Cardiac action began promptly and a regular sinus rhythm was resumed without difficulty (Fig. 3). The total period of perfusion was thirty-four minutes and cardiac arrest twenty-seven minutes.

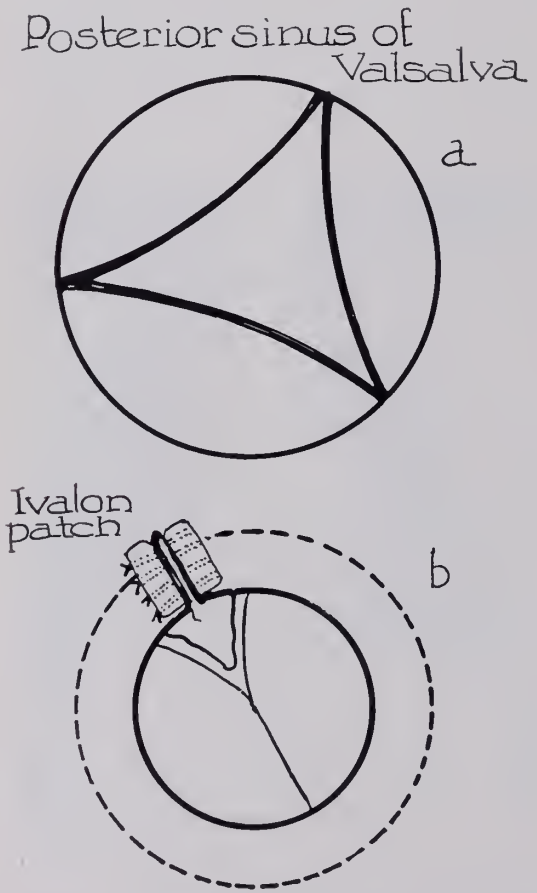


Figure 3.—Diagram of the reconstruction of the aortic annulus and aortic valves.

The patient was discharged three weeks after operation with auscultory blood pressure in the upper extremity of 136/65. Two months after operation he was re-admitted to the hospital where it was noted that the hemodynamic changes resulting from aortic insufficiency were significantly diminished. Ausculatory blood pressure was 150/70 in the upper extremities. Twenty-one months after operation the patient works as a farm hand and has had no recurrence of chest pain.

These two cases are examples of the use of extracorporeal circulation in the management of lesions of the aortic valve. There is disagreement regarding the relative merit of closed and open approaches to the aortic valve, particularly in the treatment of aortic stenosis. However, we believe that direct vision correction of the stenotic valve is desirable. Experience with six cases suggests that even in the presence of markedly calcified cusps, one or more commissures will be partially or completely fibrous thus permitting effective commissurotomy.

Since it is possible to perform commissurotomy within five to eight minutes, we have found potassium arrest unnecessary and now simply cross clamp the ascending aorta for the period necessary for manipulation of the valve. The resulting myocardial ischemia is well-tolerated. In fact, the heart continues to beat although the rate may be slowed.

Any patient who has already begun to show enlargement of the left ventricle and who has either dizziness, syncope, or angina on exertion as a result of aortic stenosis, should be considered for surgical correction. At this stage of disease, surgical intervention can be undertaken with little operative risk. Once left ventricular failure has occurred or generalized congestive failure is present the risk of any surgical procedure is increased significantly.

The surgical treatment of aortic insufficiency began in 1953, with the introduction, by Hufnagel, of a plastic ball valve. This valve has been used extensively since then with symptomatic relief in many instances. However, the operative mortality has been about 15 to 20 per cent and

correction of valvular incompetency is only partially accomplished because of the necessity of placing the valve in the descending aorta. A number of investigators have attempted to improve the function of the incompefent aortic valve by constriction of the aortic annulus, but these procedures have proved unsatisfactory. We have felt that in many cases of aortic insufficiency the cusps are relatively normal, insufficiency resulting from dilatation of the aorta at the level of coaptation of the valves. The procedure described above has the advantage of utilizing the natural valves and of restoring competency at the root of the aorta where it is most effective. It appears that this case represents the first instance in which this technic has been utilized.

Acquired Aorto-Cardiac Shunts

Case No. 3. — A 26-year-old man had been stabbed in the chest during a fight on April 1, 1956. He was operated upon at Milwaukee County Hospital and a wound in the right ventricular outflow tract was closed. At this time, because of a systolic and diastolic thrill, a diagnosis was made of penetration of the ventricular septum with a left-to-right shunt; however, the patient was in satisfactory condition following closure of the wound in the right ventricle so nothing further was done. Three weeks later cardiac catheterization revealed an abnormal communication at the level of the right ventricular outflow tract with a left-to-right shunt of 1.7 liters per minute.

In March 1958, the patient appeared at the Tulane Medical Clinic complaining of exertional dyspnea and easy fatigability and requested that the abnormal communication within his heart be closed.

Physical examination revealed a bilateral, anterior thoracotomy scar in the fourth interspace. The heart was normal in size but a systolic thrill was palpable at the base. There was a continuous "machinery" murmur heard best over the left, third intercostal space near the border of the sternum.

Roentgenographic examination of the chest revealed increase in pulsation and prominence of the pulmonary vessels. An ECG was normal.

On March 27, a fistula between the aorta and the right ventricular outflow tract was closed under direct vision with the aid of extracorporeal circulation. The patient tolerated the operation well, and he was discharged from the hospital within two weeks.

Case No. 4.—A 27-year-old housewife was admitted to Charity Hospital on January 7, 1958, complaining of exertional dyspnea, frequent attacks of tachycardia and palpitation of two years' duration. She had known of a heart murmur for three years but had been asymptomatic.

In July 1957, while in the third trimester of her first pregnancy, she suddenly developed congestive heart failure. Symptoms responded to the administration of digitalis and there was an uneventful delivery in September 1957. However, symptoms persisted after delivery and became more pronounced until her admission to the hospital in January 1958.

On examination a systolic thrill was palpable over the upper anterior chest and a soft systolic murmur was heard at the base of the heart. In addition, there was a harsh diastolic murmur along the left sternal border extending as far as the apex of the heart. The heart did not appear to be enlarged.

A chest roentgenogram was normal although fluoroscopic examination demonstrated slight enlargement of the left ventricle. The electrocardiogram was normal.

Cardiac catheterization, performed on January 9, 1958, demonstrated a left-to-right shunt at the atrial level. These findings were indicative of an aortic-atrial fistula secondary to rupture of a sinus of Valsalva.

On March 14, operation was performed. The thorax was opened through a bilateral anterior thoracotomy in the fourth intercostal spaces, transecting the sternum. The right atrium was greatly enlarged. There were numerous fibrotic excrescences on the surface of the right atrium and at the site of these areas it was possible to palpate a powerful jet of blood striking the atrial wall. This jet could be traced back to the portion of the right atrium in contact with the root of the aorta. By pressure through the atrial wall at this site the jet could be completely stopped and the thrill in the atrium eliminated. Using cardiopulmonary bypass and potassium arrest of the heart, the right atrium was opened widely and the orifice of the fistula was visualized in the upper medial portion of the right atrium. The mouth of the fistula was calcified so that it was impossible to close the opening by means of sutures. Therefore, a plug of compressed Ivalon was inserted into the fistulous tract and sutured to the margins of the defect with several silk mattress sutures. (Fig. 4).

The postoperative course was complicated by tachycardia which was finally identified as being secondary to hypopotassemia and digitalis intoxication. This was corrected by the administration of potassium and withdrawal of digitalis

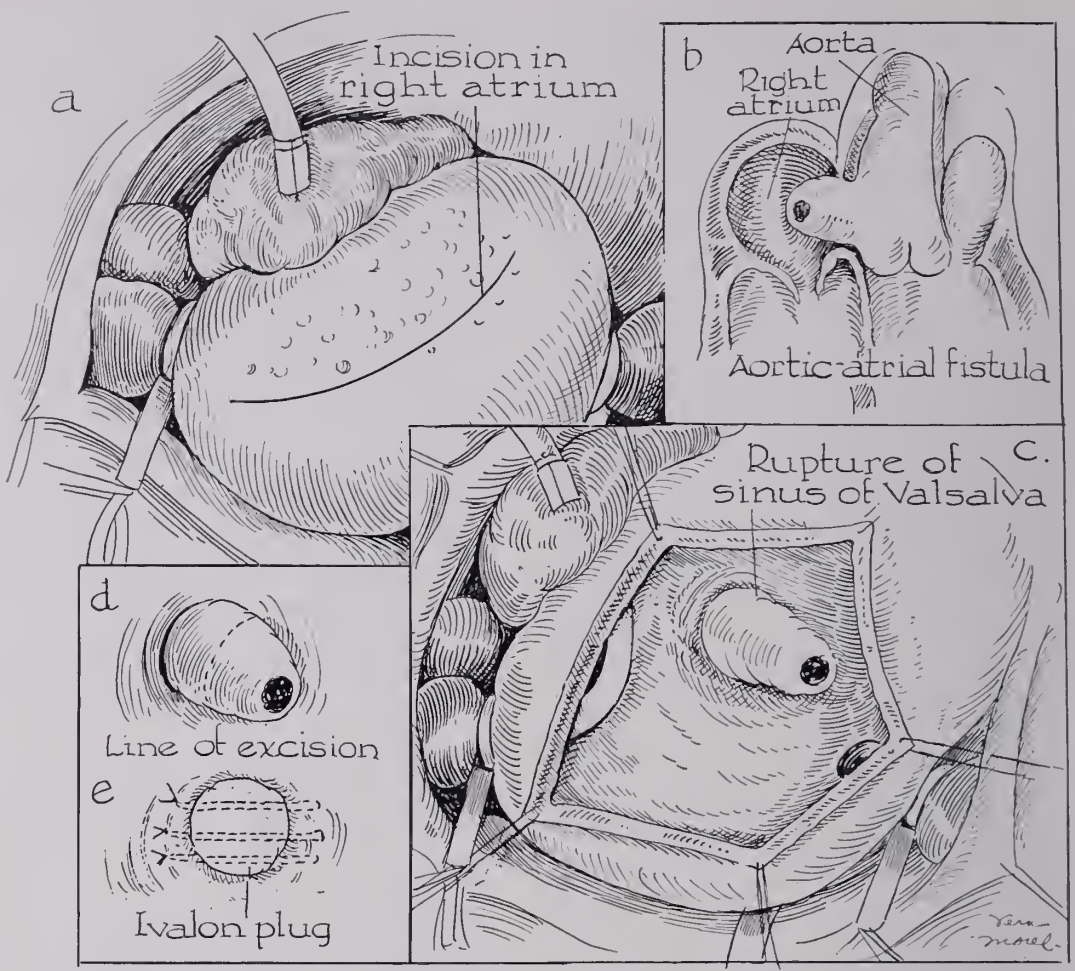


Figure 4.—Diagramatic representation of operative repair in aorto-atrial fistula.

and she was discharged on April 9. At the time of her last clinic visit she was asymptomatic and carrying on her household activities.

Previously a case of traumatic defect of the ventricular septum successfully closed with the aid of extracorporeal circulation was reported.[2] The case described here is the second traumatic intracardiac shunt which we have treated. In this patient a traumatic fistula between the aorta and the right ventricle developed following a stab wound of the heart. A similar case was recently reported by King and Shumacker.[3]

These cases of traumatic intracardiac shunt are of considerable interest and are perhaps not as uncommon as was formerly supposed. Many of these patients undoubtedly die as a result of their initial injury. In those who survive there is little tendency to spontaneous healing of the intracardiac shunt.

Aorto-atrial fistula secondary to a ruptured aneurysm of the sinus of Valsalva is being reported with increasing frequency. While the essential defect is a congenital deficiency of the elastic layer of the aortic wall at the level of the annulus fibrosis, clinical symptoms do not arise usually until the aneurysm ruptures either into one of the cardiac chambers or into the pericardial sac. In the older literature, rupture of the aneurysm is described as a dramatic event, accompanied by severe substernal pain not unlike that of myocardial infarction with the subsequent development of severe congestive failure resulting in death within a short time. It is now apparent that rupture of the aneurysm may not be a sudden catastro-

phe at all. The patient reported here was known to have a murmur resembling that of aortic insufficiency for several years, and the fistula must have been present during this entire period. The diagnosis of an intracardiac shunt at the atrial level was made by means of cardiac catheterization and with the clinical manifestations suggestive of aortic insufficiency, a correct preoperative diagnosis of an aortic-atrial fistula was possible.

In this patient the fistula was obliterated by a modification of a method described by Morrow [4] in which the opening in the root of the aorta is occluded by a snugly fitting tampon of Ivalon that is sutured to the margins of the defect. This appears to be a satisfactory method of dealing with this lesion. The rapid subsidence is indicative of complete elimination of the fistula.

Mitral Valve Disease

Uncomplicated mitral stenosis is best treated by closed, digital commissurotomy and it is unlikely that open methods will supplant this technic any time soon. On the other hand, open technics using cardiopulmonary bypass may be indicated for certain mitral valve abnormalities. These are as follows: (1) stenosis after an adequate commissurotomy; (2) mitral stenosis with recurrent embolization and auricular fibrillation; (3) mitral stenosis in conjunction with an atrial septal defect (Lutenbacher syndrome); (4) significant mitral insufficiency with or without mitral stenosis.

Not all cases of recurrent mitral stenosis need be subjected to open operation. As emphasized by Harken there has been progressive improvement in the technics of mitral commissurotomy and it is possible that some of the patients treated several years ago by closed methods would be benefited by another closed procedure utilizing the improved technics.

In mitral insufficiency on the other hand, it is our experience that the closed technics of repair are unsatisfactory. Carefully selected patients with mitral insufficiency can best be helped by an intracardiac valvuloplasty performed with the aid of extracorporeal circulation.

Summary

The surgical treatment of acquired heart disease has been expanded and rendered more effective by the use of open heart technics. Precise diagnosis utilizing catheterization of the right and left sides of the heart and special roentgenographic methods is essential. Aortic stenosis and insufficiency, fistulas between the aorta and cardiac chambers, and lesions of the mitral valve may now be corrected surgically.

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Discussion

Dr. Paul T. DeCamp (New Orleans): It is a privilege to open the discussion following Dr. Creech's excellent paper on the current status of cardiac surgery. I have elected to discuss briefly the vascular problems associated with stenosis of the major blood channels to two important organs, the kidney and the brain.

Sufficient narrowing of the artery to one or both kidneys results in severe, progressive hypertension. It occurs in early life associated with congenital strictures, and more commonly late in life associated with arteriosclerotic plaques. The diagnosis is suggested by typical arteriographic findings and certain findings of differential renal function studies. It is proved at operation by finding a significant fall in blood pressure across the area of stenosis. The disease is curable either by removal of the distal renal tissue, or by reconstructing the vascular channel. In 8 cases, we have performed nephrectomy in 3, and vascular reconstruction in 5. In every instance, the hypertension has been corrected or markedly improved, and symptoms relieved. One elderly patient died from cerebral vascular insufficiency which developed as the hypertension disappeared.

Stenosis of one or more carotid arteries in the neck characteristically produces the syndrome of "little strokes", often recurring frequently and with varying degrees of interval remission. Again

arteriography demonstrates the lesion. Bilateral carotid lesions were present in 4 of our 12 operative cases. In cases in which the vessel is narrowed, but open distally, vascular reconstruction is possible and clinically rewarding. The brain is protected during periods of operative occlusion of the vessel by hypothermia or temporary vascular bypass. In 12 cases we have performed endarterectomies in 7, in 2 instances, vascular transplantation, and in 1 case each a replacement graft, unbridling, and sympathectomy.

In 8 cases, partially occluded vessels were restored to normal function with clinical improvement in 6. An acute traumatic occlusion of the common carotid artery was corrected but death occurred from prior brain damage. In 2 cases of complete sclerotic occlusion of the internal carotid artery, vascular reconstruction was impossible, but in 1 of these improvement has followed cervical sympathectomy. In 1 instance, an embolus occurred postoperatively aggravating the disease.

From our experience we are convinced that stenotic lesions in the main vessels to the kidneys or brain may cause severe symptoms. They can be accurately evaluated by arteriographic technics, and are frequently amenable to corrective surgical therapy.

Historical Notes

We extract from **"De Bow's Commercial Review"** the following interesting reminiscence of the **"Olden Time in New Orleans and Yellow Fever:"** It was written by Maunsel White, Esq., an old and highly respectable citizen of New Orleans. **(Ed.)**

" * * * We landed our fleet of flat boats a little above Gravier, and within ten steps of Tchoupitoulas street, at 10 o'clock in the morning on the 1st of August, 1801, after a passage of 60 days from Louisville in Kentucky. The writer, then a mere lad, thought New Orleans to be a very queer looking place, and was astonished at the jargon of strange tongues. The city at that time was in the hands of the Spaniards and Don Manuel Salcedo, Governor. It was a fortified town. There was a moat or ditch cut around it, and an embankment with palisades and several small redoubts placed at convenient angles. These works were in a state of decay at that time, and were of no defence to the city. They ran from the river where Canal street now is, back to Rampart street, thence down to Esplanade street, and from Esplanade to the river, below where the mint now stands. There were three gates, through which people passed from 6 o'clock in the morning until 9 o'clock at night, when they were shut. At each was placed a sentry box with a corporal's guard. In those days of Spanish gate rule a corporal was an important man, and marched before the Governor, when he took his evening's walk on the levee, to clear the way should any one dare approach him, without a low bow, or without leaving a wide berth. The free and easy Kentuckians were particularly obnoxious, as they could not comprehend why a mere man in the shape of a Governor should be any better than themselves, and looked with astonishment at the deference paid by the Spaniards to such a decrepit old fellow as Governor Salcedo then was.

New Orleans M. & S. J. 5:370 (November) 1848

Traumatic and Surgical Shock*

• As the author quotes: "Shock is easier to recognize than to describe, and easier to describe than to understand." It is a subject with many facets, and a thorough exposition such as the author gives still leads him to conclude that there is much to learn with regard to the basic physiology of shock and the supportive care of patients in shock.

WALLACE H. BROWN, M. D.
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SHOCK is probably the most common of the serious problems among surgical and seriously traumatized patients. The term is not a precise one and is generally applied to the clinical syndrome characterized by progressive circulatory imbalance as the body responds to injury or noxious stimuli. Further definition is noted in the stages impending, reversible, and irreversible, and additional classification is obtained in describing the initiating or precipitating factor, such as (a) primary circulatory pathology due to medical, neurological or even psychiatric disturbances; (b) biological factors, including bacteria, chemical, metabolic toxins; and (c) blood or plasma depletion due to trauma, wounds, hemorrhage, surgery, peritonitis, obstruction, perforated viscus, exposures to heat, cold, and irradiation and electrolyte disturbance.

As Dr. Truman Blocker has stated "shock is easier to recognize than to describe and easier to describe than to understand." The most characteristic findings are rapid pulse of low volume, low blood pressure, pallor and sweating, even though the skin may be dry and warm, subnormal temperature, shallow depressed respiration, apathy, reduced sensibility and motor weakness, apprehension, restlessness, excessive thirst, scant urine.

Mechanism

The older theory of the mechanism of shock indicated that reduction in blood volume produces decreased delivery of oxygen to the tissues, generalized increase in capillary permeability from anoxic damage, and loss of plasma from the minute vessels to reduce further the circulating blood volume. The newer theory, particularly of Wiggers, subject to much controversy because of the conflicting experimental evidence, would indicate that many factors are at work. Wigger's interpretation is that a reduction in circulating volume results in decreased venous return, decline in cardiac output and default of the peripheral vascular circulation due to: (1) loss of vasomotion in the viscera with stagnation and pooling; (2) portal stasis from increased hepatic and splenic resistance; (3) marked reduction in renal flow due to persistence of renal constriction which occurs along with constriction of skin vessels as a compensatory mechanism in the initial and reversible stages of shock.

Reduction in blood volume, whether actual or relative, leads to a decrease in the venous return, which produces a fall in the pressure of the right atrium and central veins. The ventricles adjust with a small systolic discharge in a more rapid heart beat. The body then compensates, attempting to increase the circulating blood volume and to improve the venous return by vasoconstriction of surface and renal vessels, by increasing the rate and depth of respiration and perhaps by contracting the spleen to provide autotransfusion. If these compensatory maneuvers are not sufficient, the arterial pressure falls in spite of the vasoconstriction, and

* Presented at the Annual Meeting of the Louisiana Heart Association, April 18, 1959, in New Orleans.

so-called stagnant anoxia occurs in selected tissues, particularly the liver and kidney.

This leads us to consider the vasomotor excitor material VEM, which is apparently formed in the anoxic kidney. This factor in turn seems to be integrated with the adrenal cortex and with the sympathetic nervous system activity. Also a vasodepressor material VDM is formed and also inactivated by the anoxic liver. This factor has been defined as the iron protein, ferritin. These factors then are thought to be a part of the mechanism which, after initial phase of lowered pressure and rapid pulse of impending shock, leads very rapidly to a state of vasoconstriction as a compensatory mechanism. There is subsequently a vasodilating influence in which much blood is pooled, sequestrated or stagnated in sections of the body, particularly in the splanchnic areas. As a matter of fact, the circulating blood volume may be depleted primarily by by-passing a considerable section or segment of the blood volume, particularly by a vaso-excitory influence on the precapillary sphincter.

As decreased effective blood volume occurs, anoxia results and the VDM factors liberated either by excessive or incomplete inactivation in the liver are set forth. The chain of events may then continue on into the irreversible or critical oligemic state with ultimate circulatory collapse. In this final clinical manifestation of shock, the ultimate causes of irreversibility are yet to be determined. They may be concerned with liver, pituitary, adrenal hormones, toxic degradation products from extensive tissue damages, accumulation of metabolites as the result of anoxic changes or bacterial invasion from the gastrointestinal tract.

With this brief introduction to the shock syndrome let us pass on to the more specific consideration of surgical and traumatic shock. Hypovolemic shock includes in its classification, — wound shock, surgical shock, operative shock, traumatic shock, burn shock, crush injury shock, hemorrhagic shock, and in addition, shock associated with water loss or water deprivation (chronic illness resulting in decreased blood volume, and infections such as peritonitis). However, hemorrhage is the most frequently encountered cause of this type of shock.

Decreased Blood Volume

Management of hypovolemic shock in less severe traumatic and surgical problems may be anticipated and prevented. In this respect proper evaluation of the patient preoperatively is quite important. This includes those points in the history which might contribute to a decreased blood volume. Cancer patients, debilitated and malnourished patients from gastrointestinal disease, and patients with chronic weight loss present the clinical picture of decreased blood volume in spite of perhaps normal red blood counts as well as hematocrit readings. It is in these patients that blood volume measurements, such as those which determine the total red cell mass or the plasma volume itself, as determined by the Evans blue dye test or by chromium tagged red cells or by the I^{131} radioactive studies, may be more beneficial than at any other time. Serial determinations are especially valuable and in combination with the clinical features present a fairly reliable index as to how much blood should be given preoperatively. It is much safer and wiser to give blood prior to surgery than to expect to replace it and compensate for contracted blood volume on the operating table. Therefore blood repletion should be carried out twenty-four to forty-eight hours prior to surgery.

These same principles may be fairly well applied to the less severely traumatized patient. It may be possible by history to anticipate that the injured individual has, prior to surgery, had a contracted blood volume. In addition, it may be expected that the injury itself has created only a moderate blood loss. Under such circumstances early replacement of blood may prevent a fissure progressing to the need of a great deal more blood than otherwise might have been needed.

Blood Replacement

If the depletion of the circulating blood volume is sufficient to proceed on to true surgical or traumatic shock the corner stone of therapy is blood replacement. Transfusion of whole, properly cross-matched blood, is the best form of therapy. Patients who exhibit minimal evidence of shock, that is, a drop in the pressure and an increase in the pulse rate, have lost their minimum of 20 percent of their circulating blood volume and, as the shock deepens, an estimation of 40 to 75 percent of the blood volume is lost. Early replacement of 1000 to 1500 cc. of whole blood may effectively bring the patient out of the classification of beginning shock.

No specific formula can be given as to the amount of blood needed. The systolic blood pressure should be kept to 100 millimeters or above and the pulse rate to 120 or less and the urinary output up to 30 cc. or more per hour.

Experiences in World War II and the Korean War, demonstrated the fact that 3 to 5 pints of blood generally will be required if the systolic pressure is below 80 millimeters; and if 40 percent or more blood loss has occurred, massive amounts of blood may be safely given and needed to reverse the process of seemingly irreversible shock. Many of the Korean casualties received from 30 to 40 pints of blood within twenty-four hours and in some instances within ten hours.

In the surgical patient it may be possible to estimate the amount of blood lost by measuring aspirated material, by the procedure of counting sponges or by the plan of weighing sponges. It is generally stated that each 4 by 4 sponge may represent an average of 10 cc. and a lap. sponge may be estimated to contain 100 cc. These methods may be as much as 50 percent in error, and therefore, need to be replaced with more blood than is estimated. In the traumatized patient, tremendous losses of whole blood may occur in compound fractures and as much as 2 or 3 liters may be lost around simple or closed fractures of the femur. Multiple fractures, especially involving the spine or pelvis may cause tremendous loss of blood, as of course can readily occur in the chest and abdomen. Rapid replacement of whole blood with possible consideration of low titer O-positive blood in the beginning and then matching after the first one or two units may prevent the series of events that lead to a more progressive shock.

First Aid Measures

Restoration of the traumatized patient should begin with appropriate first aid measures to stop hemorrhage, splint fractures, provide an adequate airway; close sucking wounds; conserve body warmth; and intravenous sedation for pain but not for restlessness due to anoxia. This treatment should be concomitant with the restoration of the circulating blood volume by whole blood. And almost concomitantly it must be realized that surgery itself may be a part of the resuscitative measure in controlling the bleeding.

Surgical Intervention

Surgical intervention should be planned in those cases of traumatic shock in whom 1000 cc. of whole blood does not resuscitate the patient and should be planned at about the time of the completion of an additional 500 cc. of blood. If one can be sure that all bleeding has been controlled, it is well to give 500 cc. more blood after the systolic blood pressure has exceeded 100 millimeters. In those cases where surgery is anticipated and shock is not present but the extent of the wounds or injuries indicate rather significant blood loss, at least 500 cc. should be given before starting anesthesia. Blood may be given at 2 or 3 portals simultaneously and may be given intra-arterially but at present this particular method does not seem indicated except in exceptional instances. It has been observed in these instances that intra-arterial blood seemed to be more effective than intravenous blood perhaps through perfusion of the brain and heart more directly and possibly by by-passing the blockage effect

of the lungs. After blood has been restored the vein should be kept open by the use of 5 percent dextrose and water before and during surgery and continued where fluid and electrolyte balance requires. This can best be followed by maintaining a urinary output of around 40 cc. per hour.

Hazards of Transfusion

In discussing replacement of blood volume with whole blood, one must emphasize the need for blood but at the same time remember some of the hazards of transfusion. Of course mismatching and typing errors are foremost among the causes for serious reactions from blood transfusion. This is rarely a laboratory error but nevertheless mislabeling and the failure to identify properly the blood to be given and the patient to receive, have resulted in catastrophes.

Hepatitis also results from whole blood transfusion and it has been stated that about 1 donor in every 150 is believed to be a carrier of the hepatitis virus and that he cannot be detected by screening measures or laboratory tests. It is true, however, that only 1 in 4 recipients is susceptible to the disease should they receive the blood, therefore, the attack rate among patients receiving blood, is about 1 in 600 or an incidence of 0.2 to 0.5 percent.

Citrate intoxication is another problem associated with massive transfusions. This reaction may occasionally cause concern but if one gram of calcium gluconate is administered as a routine after each liter of blood, when rapidly administered, this danger is minimized. Further, the problem of developing bleeding tendencies is of some importance but also can be fairly well controlled with the calcium gluconate administration.

It has been wisely stated that if blood is needed in the surgical patient, more than one unit is generally indicated. A single transfusion makes no significant improvement in the anemia and is too little for a real therapeutic agent in severe hypovolemic shock. It is to be remembered that blood is the surgeon's great ally, but it must be wisely used.

Plasma Volume Expanders

Plasma expanders are to be used in emergency while awaiting the availability of whole blood. A commonly used form is 6 percent Dextran, a product developed by Sweden, and first made in England, and prepared in such a way that the average molecular weight of its fractions is in the general range of serum albumin. This material is nonpyrogenic and nonantigenic and does not appear to be dangerous to the kidneys.

Polyvinylpyrrolidone (PVP) is a synthetic product prepared by the Germans during World War II. It is made from acetylene and formaldehyde, and is quite effective in its osmotic expansion of the plasma volume. Its chief drawback appears to be that only about 65 percent of it is excreted from the body, the rest apparently remaining indefinitely and more particularly stored in the liver. It is an inexpensive product in comparison with Dextran and so far as is known is not hepatoxic even after prolonged and careful study.

A third plasma expander, ossein gelatin, is an excellent product with none of the apparent drawbacks so far as the body physiology is concerned and one that remains in the circulation a desirable length of time but has the disadvantage of a high gel point, in that it does not remain liquid except when stored in a warm place. It is perhaps the safest of the plasma volume expanders, and would seem to be very suitable for use where its high gel point does not make a practical difference.

In using pooled plasma and in using concentrated albumin solutions, one encounters several advantages and a good many disadvantages. For example, in pooled human serum there is at least a theoretical and perhaps a practical possibility of virus hepatitis in 20 percent. This incidence of hepatitis has not been affected by exposure to ultra-violet light but has been improved greatly by storing

the plasma at room temperature for a six months' period. The addition of beta-tropriolactone seems to further reduce the possibility of serum hepatitis. Human serum albumin is quite effective but of course is quite expensive since it requires about 3 or 4 average blood donations to yield the 25 grams of albumin ordinarily dispensed in 100 cc. of fluid. The plasma volume expanders serve a useful purpose in resuscitation, and can be used effectively up to 1000 or 1500 cc. volumes.

A special use of the plasma expanders is concerned with traumatic shock in which there is loss of plasma in excess of the amount of loss of whole blood. Examples of this problem may be seen in trauma causing gross soilage of the peritoneum or pleura with intestinal contents in abdominal and thoraco-abdominal wounds, in cases of gas gangrene of the edematous type, and, of course, in burns. A switch to a plasma expander can be made after administering 1000 to 1500 cc. whole blood if it is thought proper that they should be alternated so as to decrease the bleeding tendency created by dilution of some of the blood clotting mechanism.

Fluid in Burn Therapy

In burn therapy the total amount of fluid predicted to be needed in the first twenty-four hour period is obtained by multiplying the weight in kilograms by the percent of body burned times three. Of this total fluid, half should be administered as colloid bearing solutions, including blood. Twenty-five percent should be administered as isotonic saline, and the remaining 25 percent as dextrose and water. Of course if the burned patient is able to tolerate liquids by mouth the total volume of oral intake may be subtracted from the intravenous need so far as the noncolloid bearing solutions are concerned. Such an oral fluid would do well to contain a teaspoon of sodium chloride and one half teaspoon of sodium bicarbonate or sodium citrate.

Cardiorespiratory System

Primary attention has been focused on the replacement of whole blood in the management of surgical and traumatic shock and mention has been made of the necessity of treatment of the wound at the same time as the shock treatment is under way. It is necessary to be sure that a clear airway is obtained, that a sucking wound of the chest be occluded, that a tension pneumothorax be relieved and that secretions be removed from the respiratory system even if tracheostomy be necessary. These measures supersede even the control of hemorrhage. And of almost equal importance to the relief of these problems is the control of the hemothorax, pneumothorax, hemopericardium or cardiac tamponade. Additional supportive measures should be included. Chest pain may be a big factor in continuing the shock and should be controlled by appropriate pain relief, particularly by nerve block. Partial relief of cardiorespiratory dysfunction may be obtained by Levin tube, oxygen therapy, as well as optimum position.

Differential Diagnosis

In traumatic shock it is wise to be alert to the differential diagnosis in those cases in which shock or peripheral circulatory failure must always be differentiated from acute cardiac failure, cardiac tamponade, hemorrhage or emphysema in the mediastinum obstructing the superior vena cava, pulmonary embolism, poisoning from barbiturates, alcohol or morphine, coma from head injuries and adrenal insufficiency. Also chlorpromazine, that is, thorazine and phenergan may be incriminated in postoperative or post-traumatic hypotension.

Vasoconstrictors

For the most part there is very little controversy about the standard measures for the control of surgical or traumatic shock. However, the question of vasoconstrictors, antibiotics and cortisone is more controversial.

The vasoconstrictors are not generally needed where blood replacement is needed. They are primarily used in that type of shock due to vasodilator influences. However, all cases that proceed to the type

of shock described as irreversible, but not proved to be irreversible until death actually occurs, should receive vasoconstrictors. Of these norephinephrine (Levophed), methed metaraminol (Aramine), neo-synephrine and mephentermine (Wyamine) have received the widest use. They are of especial benefit in treating shock due to myocardial infarction, bacteremia, hypersensitivity reactions, and those forms of shock thought to be neurogenic in origin. Levophed and Aramine, particularly, have a direct beneficial effect on the myocardium, increasing the contractility and increasing the cardiac output. Both of these drugs display the vasoconstrictive effects of epinephrine, but neither produce cardiac acceleration, stimulation of the central nervous system, or depression of the appetite.

Levophed has the disadvantage of being extremely transient in its effect, and therefore, is to be given only intravenously and needs careful minute by minute observation. Aramine may be injected intravenously, intramuscularly, or subcutaneously, and has a more prolonged period of action. Aramine also is supposed to produce less renal constriction than Levophed. Levophed administered can be varied in its concentration according to the needs in maintaining the blood pressure adequately. Tremendous dosages have been used without obvious side effects of toxicity. Aramine can be given with a single intravenous injection of 3 to 10 milligrams and can be given at one half to two hour intervals or can be given subcutaneously and be expected to last as long as ninety minutes. Such a vasoconstrictor should ideally mimic the selective action of the body's own reflexes. None of the drugs available do just exactly this. However, Levophed does produce a marked vasoconstriction and is effective in raising the blood pressure in shock when other agents have failed and does not decrease renal function as expected from studies in the normal individual. It does have the disadvantage in normal individuals of decreasing cerebral blood flow; however, it is not known to do so in shock, but is thought from an elevation of the blood pressure to increase the cerebral circulation.

Antibiotics

Another factor of controversial importance in the management of shock is the administration of antibiotics. Much experimental work, particularly that of Fine, has indicated an endotoxin probably arising from the intestinal tract as being of great importance in producing irreversible shock. It was also observed in the Korean Campaign that the use of one half to one million units of penicillin and streptomycin intravenously was thought to be beneficial in resuscitation of advanced shock patients. Dr. Fine states in reference to the role of infection in traumatic shock, that it is his theory that when death occurs in traumatic shock in spite of proper therapy, the probable cause is a bacterial toxin which produces irretrievable collapse of the circulation. Furthermore if there is no systemic or local infection to account for the toxin, an endotoxin derived from the intestinal bacteria is the most likely offending agent. He supports this statement with experimental work and seems to feel that irreversibility is prevented by administering the antibiotic prior to onset of shock.

Sepsis is perfectly capable of producing shock and in its clinical manifestations there is a triad consisting of sepsis, shock, and hyperthermia. The terminal picture of uncontrolled infection is often that of total biological break-down, that is, circulatory and respiratory decompensations accompanied by renal shut-down, liver failure, jaundice, fever, shock and coma finally occurring. Treatment of shock and infection involves the consideration of accurate blood volume replacement, vasopressor therapy, total body cooling and oxygen therapy.

Corticosteroids

Another ancillary agent in the treatment of resistant shock is the use of the corticosteroids. There is no clear evidence that adrenal insufficiency usually is involved in the causation or progression of

shock; however, the stress reaction may precipitate a sequence of events which leads to the initial diagnosis of Addison's disease, and of course those patients who have been on corticosteroids and those patients who are chronically debilitated with stress syndrome, are all potential candidates for beneficial effects from cortisone therapy. Therefore, in all patients who have not responded to other forms of therapy, intravenous hydrocortisone in very heavy amounts is worth a trial.

It is thought that these drugs definitely enhance the effectiveness of vasopressor agents and suppress inflammation and particularly suppress the systemic reaction to inflammation. Such therapy would have a particular place in surgical patients in relation to extensive tissue injury. Its use may provide a brief period of grace in which normal circulatory adjustment may be re-established and specific treatment instituted.

The following program is suggested in reference to management with corticosteroids:

1. Increase the amount of corticosteroid preoperatively if the patient has been receiving such therapy, never cease or decrease.
2. Increase the salt intake during and after surgery. (If salt loss is occurring, 6 to 9 grams of sodium chloride may be necessary for the daily requirement).
3. Estimate blood loss accurately and administer these amounts accurately. (If the patient is sweating provide extra salt replacement).
4. Treat arterial hypotension by intravenous use of hydrocortisone.
5. Watch for signs of fluid retention by palpating the patient's bony prominences.
6. If increased stress, such as postoperative complication occurs, increase the amount of salt and of cortisone if necessary.
7. As soon as the salt balance can be obtained and maintained orally, this is the preferable form.
8. Maintain good nutrition even if necessary to give testosterone.
9. These patients should be watched closely for metabolic and electrolyte disturbances.
10. Asthenia, lassitude, weakness, arterial hypotension, indicate impending adrenocortical crisis. A low CO_2 combining power, excessive urinary salt loss, low serum chloride and sodium, should also alert one to the need for treatment.
11. The urinary output should be measured and charted daily and if more than 2,000 cc. it should be suspected of containing an excessive amount of salt loss.
12. If the patient has some cardiac disease associated, watch this carefully and correct with the proper therapeutic aid.

Other Measures

Another ancillary method of treatment is the use of hypotensive drugs, sometimes described as the hibernation treatment of shock. It has been shown experimentally that chlorpromazine reduces the mortality of animals following hemorrhage of injection of endotoxin. It would appear that in some instances prior treatment with the drug may be of some value in increasing the resistance to shock.

Briefly, anticoagulants may be mentioned as of some benefit in shock therapy, increasing the chance of survival in those patients in whom thrombosis in small vessels may be prevented. Also the use of hypothermia which is primarily used in cardiac surgery should be mentioned as should the artificial kidney. Dialysis may tide the patient through the oliguric state following shock.

Summary

In summary, a brief review of some of the facts and theories concerning the pathogenesis of shock and more particularly of surgical and traumatic shock, has been presented.

Emphasis has been placed on the restoration of a normal circulating blood volume and the correction of disturbances of the cardiorespiratory function.

Once the problems of external bleeding, impaired respiratory function, cardiac tamponade, et cetera, have been corrected,

further management of shock consists of a fairly well established group of principles plus certain newer theoretical and more controversial ancillary measures.

We still have much to learn with regard to the basic physiology of shock and the supportive care of patients in shock. There is no substitute however, for practical experience and we have learned from army experience in the recent war that many patients could be saved from irreversible shock by a refusal to accept the diagnosis of irreversibility and by extending our courage and ingenuity in treatment.

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Paroxysmal Ventricular Tachycardia*

• The author discusses the etiology of this condition, the diagnosis and the clinical and electrocardiographic signs of differentiation, as well as the prognosis, and complications, and outlines the important aspects of adequate treatment.

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PAROXYSMAL ventricular tachycardia is an arrhythmia of idio-ventricular origin. The ectopic focus may be in either ventricle. There is usually a slower auricular rhythm, although any auricular rhythm may be present. In contrast to supraventricular tachycardia most cases of paroxysmal ventricular tachycardia occur in significantly diseased hearts.

Etiology

In about 75 to 85 per cent of the attacks of paroxysmal ventricular tachycardia there is underlying heart disease; the most common type being atherosclerotic coronary disease with or without hypertensive heart disease. Many cases of paroxysmal ventricular tachycardia develop following myocardial infarction. Harris [13] et al concluded from their experiments on dogs that the paroxysmal ventricular tachycardia associated with infarction is due to release of significant amounts of potassium from the ischemic and infarcted muscle. Wasserman and Yules [3] report a case of paroxysmal ventricular tachycardia associated with a cardiac aneurysm following an infarction. A number of cases [6] have been precipitated by the two step exercise tolerance test in patients with a very mild angina. The next most common type of heart disease present is rheumatic heart disease. Ventricular tachycardia seems to have no predilection to being associated with any particular valvular damage in rheumatic heart disease.

A number of reports have pointed out that ventricular tachycardia may occur in normal hearts. Most of these cases have been associated with emotional upset or nervous tension. Ring and Blankfein [4] reported many recurring attacks of ventricular tachycardia in the same patient over a nine year period all associated with emotional strain and fatigue. Psychodynamic factors were so important in one case that the patient was finally relieved of his paroxysmal ventricular tachycardia by psychoanalysis after heavy doses of quinidine and procaine amide had failed.

Several drugs play a prominent part in producing paroxysmal ventricular tachycardia and the upsetting thing about this is that some of these same drugs are recommended in the treatment of ventricular tachycardia. Baker [5] et al reported a case of P.V.T. due to quinidine therapy of auricular fibrillation. Digitalis as a cause is well known. In Herrmann's [8] series, 10 per cent of the patients had signs of digitalis intoxication and 64 per cent of the total number were taking digitalis. Paradoxically, Baker [5] et al thought the interruption of their cases was due to Digoxin therapy.

Diagnosis

The symptoms of paroxysmal ventricular tachycardia are similar to those of other tachycardias; except that the condition is more frequently associated with severe heart disease, and as a result, the symptoms are more pronounced. They usually consist of a disturbing, rapid heart action associated with a feeling of weakness, which may progress to collapse and prostration. There is usually marked anxiety and dyspnea and, on occasion, a tightness in the chest. There may be a relative

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coronary insufficiency with angina, or coronary thrombosis may develop.

The physical signs in ventricular tachycardia are of considerable value in separating this arrhythmia from tachycardias of other origin. The ventricular rate usually ranges from 120 to 200 beats per minute. In minute to minute counting of the pulse, there is frequently a slight irregularity with rates differing from 5 to 7 beats per minute. Schrire and Vogelpoel [2] pointed out that this slight variation is hard to recognize and also may occur in supraventricular tachycardia, particularly, auricular flutter. Ventricular tachycardia does not respond to vagal stimulation by carotid sinus pressure, Valsalva maneuver, or other methods. These procedures usually change the rate in supravenrticular tachycardia.

Much [2, 7, 8, 21] has been written about the changing intensity of the first heart sound in paroxysmal ventricular tachycardia. This is a very valuable sign, but frequently is difficult to recognize. The variation in the first heart sound is due to the disassociation between the auricles and ventricles. The major component of the first heart sound is due to the closure of the mitral and tricuspid valves. The position of the auriculo-ventricular valves at the beginning of systole is paramount in determing the intensity of the first heart sound and is related to the PR interval. During ventricular tachycardia, the PR interval is continually changing and thus varying the intensity of the first heart sound. Of course, if auricular fibrillation is present or if there is retrograde conduction to the auricles, there is no variation in the first sound.

Harvey [7] has emphasized the multiple staccato type sounds that one hears in paroxysmal ventricular tachycardia. These sounds are due to the wide splitting of the first and second heart sounds and gallop sounds. The splitting of the heart sounds is due to the asynchrony of the ventricular contractions in P.V.T. Splitting of the first sound is best heard at the mitral area and lower left sternal edge. Splitting of the second sound is best heard at the pulmonary area and the third left intercostal space. In tachycardia, the first sound is grossly accentuated but the second sound is diminished. As a result, splitting of the first sound in P.V.T. is usually much more easily recognized. Of course, in a supraventricular tachycardia with bundle branch block, there is splitting of the first and second heart sounds; but it is usually not as marked as in ventricular tachycardia and there is no variation in the intensity of the first heart sound.

The occasional giant waves in jugular pulsation in paroxysmal ventricular tachycardia are of considerable diagnostic importance. These large waves are produced by the contraction of the right auricle on a closed tricuspid valve. With the exception of nodal tachycardia with retrograde blocking of nodal impulse giving rise to A-V disassociation, irregular large jugular "A" waves occur only in ventricular tachycardia.[2] Of course, when auricular fibrillation is present or there is retrograde conduction to the auricle there will be no irregular giant jugular "A" waves.

In some cases, the electrocardiographic diagnosis of ventricular tachycardia is clear cut and simple. However, in many cases the diagnosis is very difficult and even may be impossible. This difficulty is particularly manifested in separating supraventricular tachycardia with bundle branch block from ventricular tachycardia.

One of the established EKG criteria of ventricular tachycardia is the slight variation in rate. A perfectly regular rhythm, especially if the rate is over 200, suggests that the tracing may not be a ventricular tachycardia. The QRS complexes in P.V.T. are aberrant and prolongated; also, they vary slightly in contour due to the occasional supra-imposed P waves. This results from the separate, usually slower, rate of the auricles. Of course, the identification of P waves occurring independently and usually at the slower rate is most helpful. The P waves are frequently difficult or impossible to identify in

the ordinary 12 lead EKG. However, they can often be seen if V 1 and V 2 are made in the second right intercostal space. At times, esophageal leads may be the only way of identifying the P waves. In rare cases, there is retrograde conduction with P waves occurring at the same rate as the QRS, usually late in the QRS or following it. The diagnosis is supported if isolated ventricular premature complexes either antedating or following the arrhythmia can be found. Of course, these complexes must have the same form as complexes during the paroxysm; also, they are followed by compensatory pauses. If the end of the paroxysm can be recorded, it will be followed by a compensatory pause.

The presence of "capture" beats with normal QRS complexes is usually accepted as diagnostic of ventricular tachycardia. The "capture" beats occur when the S.A. node impulse happens to arrive at the ventricle just at the right time in the paroxysm to stimulate the ventricular musculature to contract. Since the beat is conducted over the normal pathways, the QRS is of normal appearance. If these "capture" beats have aberrant conduction and resemble the other complexes in the paroxysm, this is strong evidence against a ventricular tachycardia. Finding such "capture" beats may be the only way of separating A-V disassociation with nodal rhythm and bundle branch block from ventricular tachycardia.

Fisch and Pinsky [21] pointed out that finding a right bundle branch block pattern should make one suspicious that the diagnosis is not paroxysmal ventricular tachycardia. This is the bundle branch block that frequently occurs in supraventricular tachycardia when the rate goes above a certain critical level. If the onset of the tachycardia can be recorded, gradual aberrations of the QRS complexes suggest that it is a supraventricular tachycardia and not a ventricular tachycardia. Of course, vagal stimulation should always be tried during the EKG recording of the tachycardia. A positive vagal response is evidence against a ventricular tachycardia.

Prognosis

Clinicians have long been aware of the fact that the clinical courses of patients with ventricular tachycardia may vary substantially. In some cases, the patient may not even be aware of the attack of paroxysmal ventricular tachycardia while other patients may go rapidly downhill with a profound fall in blood pressure and a fatal termination. Corday [23] et al have demonstrated in dogs that there is a marked drop in the systemic and coronary blood pressure and in coronary blood flow in P.V.T. The ventricular rate did not seem to be the only factor controlling the coronary flow. At rates below 160, the site of the ectopic ventricular focus is the dominant factor. They showed that a focus at the base of the ventricle caused a much more marked reduction in aortic pressure and coronary flow than did a similar focus located at the apex. This suggests that the site of the ectopic ventricular focus has considerable bearing on prognosis and clinical course.

The prognosis in P.V.T. is influenced by many factors, such as rate, duration of attack, precipitating factors, nature of underlying heart disease and response to therapy. In prolonged attacks, myocardial failure frequently develops. Good response to therapy in these cases improves prognosis markedly. Herrmann [8] et al have pointed out the poor prognosis in patients with myocardial infarction who develop ventricular tachycardia, even when there is a good response to therapy. The mortality rate in this group in his series was 77 per cent. In contrast, the prognosis in cases with no heart disease is excellent. The over-all mortality in all P.V.T. is high. In Herrmann's [8] series of 28 cases of persistent P.V.T. there were 17 deaths within two months of onset. In all cases, there is danger of ventricular fibrillation developing. This is especially true in multifocal ventricular tachycardia, which indicates extreme irritability of the myocardium.

Complications

One of the complications of ventricular tachycardia is the frequent occurrence of postparoxysmal electrocardiographic changes. These usually consist of ST segments and T wave changes and are due to subendocardial ischemia developing during the prolonged tachycardia. These changes normally clear up in a day or two after termination of the arrhythmia; however, they may last several weeks. With prolonged tachycardia and the resulting circulatory stasis, there is a tendency for the formation of mural thrombi with ensuing pulmonary and systemic emboli. This same situation holds true in the coronary circulation, and thrombosis with myocardial infarction may occur. In long-lasting attacks, there is a high incidence of congestive failure. Myhre [16] reported two cases of Stokes-Adams syndrome occurring during attacks of ventricular tachycardia and pointed out that 51 cases of Stokes-Adams syndrome associated with various forms of ventricular tachycardia had been reported up through 1952.

Treatment

Recently [23] it has been pointed out that ventricular tachycardia may be terminated by the use of vasopressor drugs. Corday [30] et al have shown that these drugs are effective when the heart is completely denervated. This suggests that the effect is due to the elevation of the blood pressure or action of the drug directly on some anti-arrhythmic center in the heart to terminate the paroxysms. If the arrhythmia is caused by some ischemic area in the myocardium, elevation of the blood pressure may increase the coronary flow, thereby, relieving the ischemia and ending the tachycardia. Norepinephrine, intravenously, is probably the most effective vasopressor drug and is especially indicated if there is any hypotension or shock-like condition present.

The anti-arrhythmic effect of hydroxyzine (Atarax®, and Vistaril®) has been pointed out by Burrell [28] et al. These drugs can be given orally, intramuscularly, and intravenously, and seem to be relatively free of serious side effects. The above authors reported 3 cases treated with intravenous Atarax in doses varying from 50 to 100 milligrams with relief of tachycardia in all the cases in a matter of minutes. These drugs appear to act through some specific anti-arrhythmic effect on the myocardium and through their sedative or tranquilizing effects. As a prophylactic against ventricular tachycardia, these drugs given orally seem worth a try. In patients on anti-coagulant therapy concurrently with hydroxyzine (Atarax), the dosage requirement of the anticoagulant drugs was markedly decreased.

Morphine, subcutaneously or intravenously, has been effective in a number of cases. Scherf [27] reported he had used digitalis or Strophanthin in a number of cases of ventricular tachycardia and found it very effective. He does not agree with the often made statement that digitalis is contraindicated in cases of ventricular tachycardia.

Quinidine has been used both for treatment and the prevention of ventricular tachycardia. Given orally, it is probably the drug of choice except in the most severe cases. The only absolute contraindication to quinidine therapy is a history of serious reaction, such as thrombocytopenia with fever occurring during previous quinidine administration. Most authorities state that quinidine should not be used when complete heart block is known to be present but this is a relative and not an absolute contraindication. Serious toxic reactions with quinidine are rare.[26] Gastrointestinal upsets with nausea, vomiting, and diarrhea are common, and unless severe, do not indicate discontinuance of the therapy. Potentially serious is the depressing action of quinidine on the heart. Prolongation of the QRS beyond 25 to 50 per cent requires discontinuance of the drug. When quinidine administration is associated with an increase in ventricular rate or transient ventricular fibrillation, the drug should

be stopped. Oral or intramuscular quinidine occasionally causes a moderate fall in blood pressure, and this may be very marked in intravenous therapy.

Dosage schedule will vary with the requirements of the particular case. Usually, it is recommended that a test dose of quinidine be administered before starting a regular schedule of quinidine therapy. However, in a serious condition such as ventricular tachycardia, I do not believe this delay is indicated. In the average case, quinidine can be started on 0.2 grams to 0.4 grams every two hours. If normal sinus rhythm has not been restored after three or four equal two hour doses, the size of the dose should be increased by 0.10 to 0.20 grams. This schedule may be repeated until the arrhythmia is corrected or toxicity appears. It is seldom wise or necessary to give over 1.0 gram individual doses. Frequent electrocardiograms are necessary to detect the early signs of toxicity.

When a more rapid action is indicated, the drug may be given every hour and increased in the same manner as when given every two hours. Of course, on this schedule, there is a much greater risk of toxic side effects. In urgent cases, if the favorable response is not seen in one or two hours after the first dose, the next dose may be increased 0.1 gram or 0.2 grams and so on. On this schedule, there is a high incidence of toxicity and electrocardiograms should be taken frequently.

Recurrences of tachycardia are usually related to low serum quinidine concentrations. Doses of 0.2 grams to 0.4 grams, three times a day, frequently are inadequate and doses of 0.4, 0.6, or even 0.8 grams every six hours are required.

When the acute arrhythmia is associated with shock, unconsciousness, vomiting, or other factors, parenteral quinidine may be indicated. Solutions of quinidine gluconate or quinidine hydrochloride are satisfactory for parenteral administration. The usual intramuscular doses are 0.4 to 0.8 grams which may be repeated three, or rarely, four times at hourly intervals. Only under the most urgent circumstances is intravenous quinidine indicated. A solution of 0.8 grams of quinidine gluconate in 50 cc. of 5 per cent glucose can be given at a rate of 1 cc. and at the most 2 cc. per minute. However, Sigler [20] reported successful termination of a severe case of ventricular tachycardia by giving a 5 cc. vial of 0.6 grams of quinidine full strength, intravenously. The only sign of toxicity he mentioned was a transient apnea with profound cyanosis. An electrocardiogram should be taken constantly during the intravenous quinidine therapy so as to detect widening of the QRS or any other signs of toxic depression of the myocardium. The blood pressure must be watched closely as there is often a rather marked drop in blood pressure during the intravenous therapy.

Procaine amide (Pronestyl) is probably the most effective parenteral drug in the treatment of ventricular tachycardia. Its mode of action is not thoroughly understood but it seems to depress ventricular excitability. In large doses, toxic effects are rather common. Anorexia, nausea, and vomiting are frequent. Hypotension of significance occurs only rarely after oral doses. Some of these toxic effects, such as fever, various rashes, and agranulocytosis may be on an allergic [11] basis. In some cases, an eosinophilia has been reported. Antihistamine therapy has been used along with procaine amide in an attempt to control the allergic responses.

When the condition of the patient is satisfactory enough to allow a lapse of hours between initiation of therapy and the interruption of the arrhythmia, the drug should be given orally. The usual dose is 1.25 grams followed in one hour by 0.75 grams. If this dose is not adequate, doses of 0.5 to 1.0 grams every two hours may restore normal rhythm. After intramuscular procaine amide, an effective blood level is reached in fifteen to sixty minutes. Hypotension is much rarer than with the intravenous route. The [22] initial dose should be about 1.0 grams. If indicated, subsequent doses of 1.0 grams may be repeated every one

to three hours. When immediate antiarrhythmic effects are necessary, intravenous procaine amide is indicated. One gram of the drug should be diluted in 100 cc. of 5 per cent glucose and given at not over 100 milligrams per minute.[20] The total doses at one time should not exceed 1.0 to 2.5 grams. However, Embree [18] and Levine reported a case which required 4.0 grams given intravenously over a thirty-six minute period. Lovelace [11] and Walker consider the speed of injections of major importance. They successfully treated a resistant case by giving the drug at the rate of 400 milligrams a minute. Speed of injection increases both the hypotensive side effects and the risk of intraventricular block.

Due to the frequent rather marked hypotensive effects of intravenous procaine amide, the blood pressure should be taken every half minute during the injection. A vasopressor drug should be at hand for immediate use if necessary. Continuous or intermittent electrocardiographic recording during the injection is necessary to recognize any widening of the QRS. If the QRS complexes widen over 50 per cent, the injection should be stopped so as to reduce the danger of ventricular fibrillation.

Of course, if ventricular tachycardia is due to digitalis intoxication, the treatment of choice is discontinuance of digitalis, plus potassium therapy. Twenty milli-equivalents of potassium in 500 cc. of 5 per cent glucose should be given by slow intravenous drip.

Finally, Marmor and Kert [10] reported a case of ventricular tachycardia that was resistant to the usual drugs and responded only to psychoanalysis.

Summary

In this paper, I have attempted to discuss the etiology, diagnosis, prognosis, and complications of ventricular tachycardia. In addition, I have reviewed the important aspects of treatment.

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Discussion

Dr. Louis Levy II (New Orleans): I congratulate Dr. Deming on his presentation of this subject.

In regard to etiology, it is rare that this is not associated with organic heart disease. Most cases I have seen have been associated with coronary heart disease.

In regard to diagnosis, periodic accentuation of the first heart sound is difficult to determine with a rapid ventricular rate. The differentiation by ECG of this condition from supraventricular tachycardia, at times, is difficult; this includes relatively regular auricular fibrillation with aberration and also slow auricular flutter with aberration. A clue is sometimes obtained by close inspection of the electrocardiogram for an independent auricular rhythm.

In regard to therapy, I personally have had more difficulty with the use of intravenous Pronestyl than I have had with intravenous quinidine. This has been mainly due to occurence of shock reactions. I do not believe there is very often an indication for oral preparations in this disturbance when it occurs in association with myocardial infarction. In this situation I use a 1% quinidine preparation, that is, 7½ grains in 50 ccs., and I usually utilize 50 cc. in approximately five minutes. The main use of such preparations as Vistaril, Atarax, oral quinidine and Pronestyl is probably in ventricular tachycardia not associated with coronary disease, where the speed of effect is not important.

In regard to intramuscular administration, most of these patients are in shock and will not pick up the drug intramuscularly and that is why I utilize the IV route.

These are very minor additions to Dr. Deming's paper, and I wish to congratulate him on his excellent presentation.

Health of the City

In our editorial remarks for the July number of this Journal, we stated that rain fell almost daily throughout the month of June; and now we may make the same statement in regard to the months of July and August.

	Inches
June 1847	7.233
July 1847	17.885
August 1847	5.450
	30.568
June 1848	30.818
July 1848	9.242
August 1848	6.843
	46.903

If heavy and constant showers for three months can generate yellow fever, we may well look forward with painful apprehensions. But it must be admitted that the most careful observations and sapient predictions are constantly baffled in reference to the appearance of our epidemics; for we maintain that as yet we know nothing of the causes of yellow fever. It prevails alike amid daily showers or eternal sunshine.

New Orleans M. & S. J. 5:270 (September) 1848

The Present Status of Poliomyelitis In Louisiana*

• The need for laboratory studies in the diagnosis of poliomyelitis, the development of the immunization program in Louisiana, and an analysis of statistics obtained by the Louisiana State Board of Health, are very thoroughly discussed by the authors.

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DISEASES due to viruses are growing in importance in the field of preventive medicine. For a long time, the study of these diseases has been hampered by lack of methods which might be applicable for routine laboratory testing. New methods, techniques, apparatus, and approach to these diseases have been developed, and many of these are now being used in the laboratories of the Louisiana State Board of Health.

Although the epidemiology of poliomyelitis is becoming fairly well known, the dynamics of occurrence has changed during the past half century. Progress in laboratory diagnosis and prevention, however, are fairly recent developments. It is therefore pertinent that an evaluation of the status of poliomyelitis during the past decade be made. First of all, to find out whether any aspect of its known epidemiology has changed enough to need attention: second, to explore the possibility of finding new epidemiological knowledge; and third, to appraise the effectiveness of the immunization program.

The Work of the Laboratory

In the process of doing field epidemiology in poliomyelitis where precise diagnosis is the pivotal point around which the validity of the whole statistical system revolves, we are faced with the problem of laboratory confirmation. We depend here on the virus isolation and complement fixation techniques. Even fresh specimens submitted to the laboratory do not all give confirmatory results. Usually, only about 75 per cent of the specimens from paralytic cases are confirmed by laboratory methods under favorable circumstances, and from nonparalytic cases, much less. In Tables 19, 20, and 21, it will be noted that this high rate of confirmation was not attained. This was due to the fact that many of the specimens came from outlying areas and were received in the laboratory in a not too fresh state. Yet it was found that in those specimens which were taken from cases in the New Orleans Charity Hospital and immediately submitted to the laboratory, 75 per cent resulted in confirmation of the paralytic cases. Another problem is that Coxsackie and Echo viruses may produce signs and symptoms simulating poliomyelitis, and, in relation particularly to nonparalytic cases, may lead to misdiagnosis. Under present conditions, therefore, the use of poliomyelitis statistical data derived only from clinical diagnosis and collected in the routine manner poses many problems of validity. This should be remembered in evaluating the results obtained in the present study, since only part of the statistical data was confirmed by laboratory methods.

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Facilities in the State Board of Health laboratories for the diagnosis of viral disease date back to 1914, when rabies diagnosis began. For many years, this remained the only viral diagnostic test routinely undertaken. Complement fixation test for laboratory diagnosis of typhus was begun in 1944. Other tests for rickettsial and viral diseases were performed as soon as antigens became available. The following serologic tests are now routinely done: Typhus, Rocky Mountain Spotted Fever, Rickettsialpox, "Q" Fever, Eastern and Western Equine Encephalomyelitis, St. Louis Encephalitis, Mumps, Influenza, Psittacosis, Lymphocytic Choriomeningitis, Lymphogranuloma Venereum, and Poliomyelitis (Types I, II and III.)

During 1955, with assistance from the United States Public Health Service, a poliomyelitis virus isolation section was set up in the State Board of Health Laboratory. Tissue culture became a routine laboratory procedure early in 1956.

The outbreak of Asian Influenza, in 1956 and 1957, was responsible for further expansion of the virology laboratory. Isolation of virus, complement fixation, and hemagglutination tests were performed on specimens submitted for diagnosis.

With the aid of the state epidemiologist, a system was set up for collecting stool and blood specimens from as many cases of reported poliomyelitis as can be obtained. Stool specimens are collected as early as possible on three successive days. The first specimen of blood is collected during the acute state, and the second, approximately ten to fourteen days later. The stool specimens are frozen, if possible, and shipped to the laboratory after collection. A laboratory data slip fully filled out accompanies each specimen.

Specimens which show cytopathogenic agents on HeLa cell tissue culture and which do not type with Polio Types I, II and III antisera are sent to the Communicable Disease Center for further study. During an outbreak of supposedly nonparalytic poliomyelitis in the northwestern part of the State in 1957, in which no polio viruses were isolated, 22 cases yielded Echo viruses on monkey kidney cell cultures. Monkey tissue cells, although quite costly and not used routinely in our laboratory, are used when necessary.

Development of Immunization Program

In 1954, the Louisiana State Board of Health participated in the vaccination field trials of the National Foundation for Infantile Paralysis, three parishes being selected, namely, Bossier, Caddo, and Rapides. Their immunization status at the end of 1954, is given in Table 23. It is to be noted that a very high percentage of the children who started the series completed it, receiving all three injections.

From April to September 1955, the NFIP Program was extended to all of the parishes within the State and was offered to all first and second grade children. The following month, the Louisiana State Board of Health embarked on a state-wide polio immunization program, financed by funds specifically appropriated for this purpose by the Congress of the United States. Vaccination was offered to all children 19 years of age and under, and to expectant mothers. For the year of 1955, 59,307 persons had received only one injection of vaccine, 87,113 persons had received two injections, and 2,180 had received three injections. This program was continued without major change through April 1958, at which time the vaccine purchased with federal funds was exhausted. From that time, the program was financed by State appropriated funds. The number of immunizations given for the three-year period 1956-58 is shown in Table 24.

The total polio vaccine injections given from the beginning of the 1954 field trials through April 1958, at which time the federally sponsored program ceased, was 2,362,186, of which 956,173 were first injections, 791,997 were second injections, and 614,016 were third injections.

Beginning in May of 1958, the Louisiana State Board of Health recommended that all persons 40 years of age and un-

der be immunized. Vaccine was offered through local health units to all persons who ordinarily make use of health unit services. During 1958, the State Board of Health's method of tabulating polio injections was changed to conform with the recording methods of other types of immunizations, i.e., considering an individual immunized after 2 injections, the third being a booster.* During 1958, a total of 163,523 persons received two injections of polio vaccine, and, in addition, 246,495 persons received the third, or booster, injection.

Analysis of Statistical Data

In preparing the tables showing the rates of poliomyelitis among the vaccinated and nonvaccinated groups for the years 1956-1958, inclusive, (Tables 25 to 30), several assumptions had to be made. Since practically all of our immunization activities through 1958 had been mainly directed toward individuals under 20 years of age, the total population of individuals 19 years of age and under was used as the basis of these calculations. For the year 1956, the immunized population was calculated by adding together the total number of persons immunized in the field trials of 1954, the total number immunized during the year 1955, and one-half of the total number immunized during 1956. The population in the nonvaccinated group was calculated by taking the total state population for the age-group 19 years and under, and subtracting the total number of immunized persons for the particular year. For 1957 and 1958, this same procedure was used, i.e., all completed immunizations for the prior years plus one-half of the total number immunized in the current year were used to calculate the vaccinated population, and for each year, the total population in the age-group 19 years and under less the vaccinated group gave the total population in the unvaccinated group. It must also be remembered that practically all of these data came mostly from the vaccinations given in the local health units, and take into account only small numbers of children who had been immunized by their family physicians before the vaccine became available through private sources.

During the three year period since the large scale vaccination program began, the paralytic case rates in the vaccinated group decreased 83 per cent below the nonvaccinated group in 1956 (from 43.0 cases per 100,000 nonvaccinated to 7.4 per 100,000 vaccinated persons), 74 per cent below the nonvaccinated in 1957 (from 9.4 to 2.5), and 87 per cent in 1958 (from 10.7 to 1.4). (See Table 25) The vaccinated group included all persons below 20 years of age having had at least 2 injections of vaccine. The rest were considered nonvaccinated. Table 26 shows that similar differences in paralytic case rates were observed between the vaccinated and nonvaccinated, except that the vaccinated group included only those with at least 3 injections.

Tables 27 and 28 make similar comparisons for nonparalytic case rates between vaccinated and nonvaccinated, but in these instances there appear to be no significant differences between the vaccinated and nonvaccinated rates.

Tables 29 and 30 make similar comparisons for rates of all cases of poliomyelitis between the vaccinated and nonvaccinated. Here, the differences are significant, and would be expected to be so because the data include the paralytic cases where differences are great. It can be said, therefore, that the analysis reveals *significant decreases in the paralytic case rates* when comparison is made between the vaccinated and nonvaccinated groups.

If we examine Table 6 for the case rates and death rates of poliomyelitis for the years 1948 to 1958 inclusive, the trend appears to indicate that we are now in the trough of a cycle. This makes it difficult to determine the effectiveness of the vaccine on the basis of these two factors alone. It is, however, worth noting that during the last two years, 1957 and 1958,

* In 1959 this was changed again, considering a person immunzed after three injections, the fourth being a booster.

the death rates were significantly lower than for any years of the study. Could this be attributed to the effectiveness of the vaccine, or to a statistical uncertainty resulting from the small number of cases reported and the very small number of deaths occurring during these two years?

During the years when smaller number of paralytic cases occurred, i.e., 1948, 1957, 1958, the case fatality rates based on paralytic cases were higher than during the other years with larger number of paralytic cases except for the year 1950. The case fatality rate based on all cases was much higher in 1958 than in the other years. It is difficult to explain these findings. We must, however, consider the possibility that small numbers of cases and deaths may cause this variation. But why should the result be only in one direction, i.e., increased fatality rates? Could it be that this one way direction of the case fatality rates based on paralytic cases may be due to the actual decrease in paralytic cases due to the effectiveness of the vaccine? The latter consideration is not confuted by the apparent increased ratio of paralytic to nonparalytic cases in 1958, since this could very well be due to better laboratory and more circumspect clinical diagnosis of nonparalytic cases (Table 6). The possibility of the variable antigenic character of the vaccine for the various strains of poliomyelitis should also be kept in mind.

Several ecological factors which are recognized as important in the epidemiology of communicable diseases are studied here in relation to poliomyelitis death rates, case rates, and paralytic case rates. Although there appears to be some constancy in the ratios between poliomyelitis death rates, case rates, and paralytic case rates for the whole state, year by year from 1949 to 1958 (Tables 5 and 6), this is not so when comparisons are made parish by parish, even when basing the calculation on the summation of cases and deaths for the whole eleven year period (Tables 1, 2, 3, and 4). The reasons for this appear to be, first of all, that except for the larger cities, the number of cases and deaths are too limited to be as statistically valid as would be desirable, and secondly, that the problems of satisfactory diagnosis have not been settled. The death rates, therefore, are the most valid statistics for poliomyelitis, and paralytic cases are second. But nonparalytic cases must be considered as data that most probably are too variable for satisfactory statistical study. Case rates have, nevertheless, been used in this study of correlation.

In order to derive epidemiological information in relation to various ecological factors, the statistical technique used in this study is the same as previously used for pinpointing Louisiana health problems.[1] The following interrelationships were derived:

1. There appears to be some indication of correlation between higher average poliomyelitis death rates and lower population densities in those parishes having average poliomyelitis death rates higher than 1.0 per 100,000 population, i.e., the lower the population densities in such parishes, the more likely are their average death rates expected to be higher in the Louisiana experience (Table 7). One would expect that the immunity status in less dense areas would be less, thereby predisposing to higher death rates.

2. There appears to be some correlation between average poliomyelitis case rates and lower population densities in those parishes having average poliomyelitis case rates lower than 15 cases per 100,000 population, i.e., the lower the population densities in such parishes, the more likely, in the Louisiana experience, are their average poliomyelitis case rates expected to be lower (Table 8). This could be due to the retarded force of the crowding factor. It might conceivably be due also to the lesser medical services

[1] B. Freedman: Pinpointing Public Health Needs in Louisiana, Journal La. State Medical Soc., 110:71-92 (March) 1958.

(Continued on page 358)

TABLE 1

POLIOMYELITIS AVERAGE DEATH RATES, CASE RATES, AND PARALYTIC CASE RATES PER 100,000 POPULATION, 1948-58, RELATED TO THE POPULATION DENSITY PER SQUARE MILE, 1955, IN EACH PARISH IN LOUISIANA

Parishes Listed According to their Population Density per square mile from Lowest to Highest Densities	Density per sq. mile 1955	Poliomyelitis Average Rates for 1948-1958 Period		
		Death Rates	Case Rates	Paralytic Case Rates
		See Table 7	See Table 8	See Table 9
01. Cameron	4.0	3.1	9.9	6.4
02. Vernon	13.9	1.6	44.2	24.4
03. Catahoula	14.2	3.4	16.5	10.0
04. Plaquemines	15.5	0.0	6.6	6.6
05. Beauregard	16.3	1.0	8.5	4.3
06. Winn	16.5	1.2	9.8	7.3
07. Caldwell	17.0	0.0	2.1	2.1
08. Sabine	18.9	1.0	17.2	12.5
09. Tensas	18.9	0.0	7.4	6.0
10. Grant	20.0	0.0	9.7	7.0
11. Bienville	20.1	0.0	16.0	9.7
12. Union	20.1	1.1	8.2	6.2
13. Concordia	20.2	2.7	8.0	5.4
14. St. Helena	20.8	0.0	11.1	8.9
15. LaSalle	21.4	1.5	12.9	10.1
16. W. Feliciana	22.8	1.7	11.3	3.5
17. DeSoto	23.0	0.8	18.6	10.9
18. Jackson	24.3	1.3	10.3	7.6
19. Red River	24.5	3.5	32.2	26.8
20. Allen	25.2	1.1	12.0	9.0
21. Madison	25.6	1.2	11.2	5.6
22. St. Bernard	25.7	0.0	20.8	17.6
23. Natchitoches	28.3	0.9	12.3	8.1
24. Claiborne	29.4	0.8	20.3	12.2
25. Vermilion	29.8	0.5	13.8	9.0
26. St. Tammany	31.7	1.4	15.8	13.0
27. Livingston	31.9	1.0	25.2	19.3
28. Terrebonne	34.0	0.4	12.0	9.7
29. E. Carroll	34.4	1.2	14.7	7.3
30. St. Martin	36.5	0.0	4.4	4.4
31. Pointe Coupee	36.7	0.9	18.0	13.6
32. Lafourche	38.1	0.5	19.5	12.3
33. Jefferson Davis	41.7	0.0	10.7	5.8
34. Iberville	41.8	1.5	11.0	8.0
35. Morehouse	42.8	2.4	20.1	13.2
36. Franklin	42.9	0.0	5.1	3.9
37. E. Feliciana	43.4	0.0	11.4	10.4
38. Richland	44.3	1.5	38.8	15.4
39. Avoyelles	45.3	0.0	23.0	10.7
40. W. Carroll	45.5	0.0	25.3	9.2
41. St. Charles	45.8	0.0	13.3	7.4
42. Assumption	46.5	0.0	12.6	5.6
43. Evangeline	47.9	1.2	5.0	5.0
44. Bossier	52.1	1.0	32.7	18.3
45. Lincoln	56.1	0.8	14.6	8.5
46. Webster	58.7	1.1	18.9	12.9
47. St. James	58.9	0.0	7.6	6.4
48. W. Baton Rouge	59.7	3.2	16.3	11.4
49. Washington	60.8	0.5	10.1	8.5
50. St. Mary	63.1	1.6	12.6	11.0
51. St. John	66.3	0.0	10.4	9.1
52. Iberia	70.7	0.0	6.2	5.7
53. Tangipahoa	71.3	0.4	11.1	9.5
54. Acadia	71.7	0.8	9.0	5.7
55. Rapides	75.0	1.1	20.5	9.5
56. Ascension	76.7	0.9	12.8	10.3
57. St. Landry	88.3	0.7	10.7	8.3
58. Calcasieu	96.9	0.6	14.0	10.7
59. Ouachita	129.1	0.8	25.5	14.9
60. Caddo	213.7	1.1	36.4	22.9
61. Lafayette	229.6	1.3	16.1	10.3
62. Jefferson	322.6	0.3	13.3	10.7
63. E. Baton Rouge	421.8	0.6	30.9	18.3
64. Orleans	3066.8	0.4	8.2	6.5

TABLE 2

POLIOMYELITIS AVERAGE DEATH RATES, CASE RATES, AND PARALYTIC CASE RATES PER 100,000 POPULATION, 1948-58, RELATED TO THE RURALITY, 1950, OF EACH PARISH IN LOUISIANA

Parishes Listed According to their Rurality, from the Highest % to the Lowest % Rural Population	% Rural Population 1950	Poliomyelitis Average Case Rates 1948-1958 Period		
		Death Rates	Case Rates	Paralytic Case Rates
		See Table 10	See Table 11	See Table 12
01. Cameron	100.0	3.1	9.9	6.4
02. Catahoula	100.0	3.4	16.5	10.0
03. Plaquemines	100.0	0.0	6.6	6.6
04. Caldwell	100.0	0.0	2.1	2.1
05. Sabine	100.0	1.0	17.2	12.5
06. Tensas	100.0	0.0	7.4	6.0
07. Grant	100.0	0.0	9.7	7.0
08. Bienville	100.0	0.0	16.0	9.7
09. Union	100.0	1.1	8.2	6.2
10. St. Helena	100.0	0.0	11.1	8.9
11. LaSalle	100.0	1.5	12.9	10.1
12. W. Feliciana	100.0	1.7	11.3	3.5
13. Red River	100.0	3.5	32.2	26.8
14. Livingston	100.0	1.0	25.2	19.2
15. W. Carroll	100.0	0.0	25.3	9.2
16. Assumption	100.0	0.0	12.6	5.6
17. St. James	100.0	0.0	7.6	6.4
18. Richland	88.3	1.5	38.8	15.4
19. Franklin	87.6	0.0	5.1	3.9
20. Pointe Coupee	87.1	0.9	18.0	13.6
21. St. Martin	82.5	0.0	4.4	4.4
22. DeSoto	81.8	0.8	18.6	10.9
23. Ascension	81.5	0.9	12.8	10.3
24. Jackson	79.9	1.3	10.3	7.6
25. Evangeline	79.0	1.2	5.0	5.0
26. Iberville	78.6	1.5	11.0	8.0
27. Avoyelles	78.2	0.0	23.0	10.7
28. St. Bernard	76.2	0.0	20.8	17.6
29. Vernon	75.4	1.6	44.2	24.4
30. Lafourche	75.0	0.5	19.5	12.3
31. St. Charles	74.9	0.0	13.3	7.4
32. St. Landry	74.7	0.7	10.7	8.3
33. E. Carroll	74.7	1.2	14.7	7.3
34. Natchitoches	74.0	0.9	12.3	8.1
35. W. Baton Rouge	73.6	3.2	16.3	11.4
36. Concordia	73.3	2.7	8.0	5.4
37. Tangipahoa	72.0	0.4	11.1	9.5
38. Allen	70.3	1.1	12.0	9.0
39. St. John	70.0	0.0	10.4	9.1
40. Claiborne	68.9	0.8	20.3	12.2
41. St. Tammany	68.2	1.4	15.8	13.0
42. Beauregard	67.4	1.0	8.5	4.3
43. Winn	65.0	1.2	9.8	7.3
44. E. Feliciana	64.6	0.0	11.4	10.4
45. Webster	63.2	1.1	18.9	12.9
46. Terrebonne	62.3	0.4	12.0	9.7
47. Vermilion	62.3	0.5	13.8	9.0
48. Morehouse	60.1	2.4	20.1	13.2
49. Lincoln	59.8	0.8	14.6	8.5
50. Bossier	58.2	1.0	32.7	18.3
51. Madison	55.5	1.2	11.2	5.6
52. Rapides	54.4	1.1	20.5	9.5
53. Washington	53.6	0.5	10.1	8.5
54. Acadia	52.9	0.8	9.0	5.7
55. Jefferson Davis	52.4	0.0	10.7	5.8
56. St. Mary	48.4	1.6	12.6	11.0
57. Iberia	47.1	0.0	6.2	5.7
58. Lafayette	42.0	1.3	16.1	10.3
59. Ouachita	34.6	0.8	25.5	14.9
60. Calcasieu	27.8	0.6	14.0	10.7
61. Caddo	24.4	1.1	36.4	22.9
62. E. Baton Rouge	14.2	0.6	30.9	18.3
63. Jefferson	11.2	0.3	13.3	10.7
64. Orleans	0.0	0.4	8.2	6.5

TABLE 3

POLIOMYELITIS AVERAGE DEATH RATES, CASE RATES, AND PARALYTIC CASE RATES PER 100,000 POPULATION, 1948-58, RELATED TO THE MEDIAN ANNUAL INCOME OF FAMILIES AND UNRELATED INDIVIDUALS, 1950, IN EACH PARISH IN LOUISIANA

Parishes Listed According to their Median Annual Income for Families and Unrelated Individuals from Lowest to Highest	Median Annual Income	Poliomyelitis Average Rates for 1948-1958 Period		
		Death Rates	Case Rates	Paralytic Case Rates
		See Table 13	See Table 14	See Table 15
01. E. Carroll	$ 835	1.2	14.7	7.3
02. Tensas	840	0.0	7.4	6.0
03. Natchitoches	965	0.9	12.3	8.1
04. Madison	982	1.2	11.2	5.6
05. E. Feliciana	1,007	0.0	11.4	10.4
06. Red River	1,030	3.5	32.2	26.8
07. Concordia	1,058	2.7	8.0	5.4
08. St. Helena	1,058	0.0	11.1	8.9
09. W. Carroll	1,064	0.0	25.3	9.2
10. Vernon	1,089	1.6	44.2	24.4
11. W. Feliciana	1,100	1.7	11.3	3.5
12. Catahoula	1,109	3.4	16.5	10.0
13. St. James	1,118	0.0	7.6	6.4
14. Pointe Coupee	1,124	0.9	18.0	13.6
15. DeSoto	1,164	0.8	18.6	10.9
16. Assumption	1,169	0.0	12.6	5.6
17. Grant	1,194	0.0	9.7	7.0
18. Tangipahoa	1,204	0.4	11.1	9.5
19. Lincoln	1,212	0.8	14.6	8.5
20. Sabine	1,214	1.0	17.2	12.5
21. Avoyelles	1,215	0.0	23.0	10.7
22. Richland	1,224	1.5	38.8	15.4
23. Franklin	1,224	0.0	5.1	3.9
24. St. Landry	1,242	0.7	10.7	8.3
25. Evangeline	1,247	1.2	5.0	5.0
26. Vermilion	1,269	0.5	13.8	9.0
27. Bienville	1,272	0.0	16.0	9.7
28. Winn	1,315	1.2	9.8	7.3
29. St. Martin	1,316	0.0	4.4	4.4
30. Caldwell	1,355	0.0	2.1	2.1
31. Iberville	1,381	1.5	11.0	8.0
32. Ascension	1,410	0.9	12.8	10.3
33. W. Baton Rouge	1,437	3.2	16.3	11.4
34. St. Tammany	1,446	1.4	15.8	13.0
35. Claiborne	1,458	0.8	20.3	12.2
36. Union	1,473	1.1	8.2	6.2
37. Morehouse	1,533	2.4	20.1	13.2
38. Acadia	1,563	0.8	4.0	5.7
39. Beauregard	1,573	1.0	8.5	4.3
40. LaSalle	1,613	1.5	12.9	10.1
41. Allen	1,634	1.1	12.0	9.0
42. Livingston	1,645	1.0	25.2	19.3
43. Jefferson Davis	1,656	0.0	10.7	5.8
44. Washington	1,679	0.5	10.1	8.5
45. Lafayette	1,680	1.3	16.1	10.3
46. Rapides	1,690	1.1	20.5	9.5
47. St. John	1,707	0.0	10.4	9.1
48. Bossier	1,744	1.0	32.7	18.3
49. St. Mary	1,831	1.6	12.6	11.0
50. Iberia	1,835	0.0	6.2	5.7
51. Jackson	1,876	1.3	10.3	7.6
52. Terrebonne	1,901	0.4	12.0	9.7
53. St. Charles	1,907	0.0	13.3	7.4
54. Webster	1,920	1.1	18.9	12.9
55. Lafourche	1,920	0.5	19.5	12.3
56. St. Bernard	2,020	0.0	20.8	17.6
57. Ouachita	2,052	0.8	25.5	14.9
58. Cameron	2,090	3.1	9.9	6.4
59. Caddo	2,157	1.1	36.4	22.9
60. Plaquemines	2,197	0.0	6.6	6.6
61. Orleans	2,267	0.4	8.2	6.5
62. E. Baton Rouge	2,618	0.6	30.9	18.3
63. Calcasieu	2,668	0.6	14.0	10.7
64. Jefferson	2,762	0.3	13.3	10.7

TABLE 4

POLIOMYELITIS AVERAGE DEATH RATES, CASE RATES, AND PARALYTIC CASE RATES PER 100,000 POPULATION, 1948-58, RELATED TO THE HOUSING SANITATION, 1950, IN EACH PARISH IN LOUISIANA

Parishes Listed According to their Housing Sanitation from the Worst to the Best	% of Housing with Private Toilets, Baths, and Hot or Cold Running Water 1950	Poliomyelitis Average Case Rates 1948-1958 Period		
		Death Rates	Case Rates	Paralytic Case Rates
		See Table 16	See Table 17	See Table 18
01. West Carroll	12.2	0.0	25.3	9.2
02. Red River	12.5	3.5	32.2	26.8
03. St. Helena	12.7	0.0	11.1	8.9
04. Catahoula	12.8	3.4	16.5	10.0
05. E. Carroll	13.3	1.2	14.7	7.3
06. Grant	13.8	0.0	9.7	7.0
07. Franklin	14.9	0.0	5.1	3.9
08. Tensas	15.1	0.0	7.4	6.0
09. Sabine	15.2	1.0	17.2	12.5
10. Madison	15.3	1.2	11.2	5.6
11. Caldwell	18.4	0.0	2.1	2.1
12. Bienville	18.6	0.0	16.0	9.7
13. W. Feliciana	18.7	1.7	11.3	3.5
14. Union	19.1	1.1	8.2	6.2
15. Natchitoches	19.5	0.9	12.3	8.1
16. Concordia	19.6	2.7	8.0	5.4
17. E. Feliciana	19.8	0.0	11.4	10.4
18. Richland	20.0	1.5	38.8	15.4
19. Assumption	20.0	0.0	12.6	5.6
20. Winn	21.4	1.2	9.8	7.3
21. Pointe Coupee	22.1	0.9	18.0	13.6
22. St. Martin	22.5	0.0	4.4	4.4
23. St. James	22.9	0.0	7.6	6.4
24. Avoyelles	23.5	0.0	23.0	10.7
25. DeSoto	23.7	0.8	18.6	10.9
26. St. John	25.0	0.0	10.4	9.1
27. Vernon	25.4	1.6	44.2	24.4
28. Evangeline	25.5	1.2	5.0	5.0
29. Morehouse	26.5	2.4	20.1	13.2
30. St. Landry	26.7	0.7	10.7	8.3
31. Cameron	27.4	3.1	9.9	6.4
32. LaSalle	27.8	1.5	12.9	10.1
33. Livingston	27.9	1.0	25.2	19.3
34. Iberville	28.3	1.5	11.0	8.0
35. Allen	29.7	1.1	12.0	9.0
36. Claiborne	30.0	0.8	20.3	12.2
37. W. Baton Rouge	30.1	3.2	16.3	11.4
38. Ascension	30.6	0.9	12.8	10.3
39. Jackson	31.6	1.3	10.3	7.6
40. Tangipahoa	32.4	0.4	11.1	9.5
41. Vermilion	33.2	0.5	13.8	9.0
42. Beauregard	34.0	1.0	8.5	4.3
43. Acadia	35.0	0.8	9.0	5.7
44. Plaquemines	35.9	0.0	6.6	6.6
45. Lincoln	36.2	0.8	14.6	8.5
46. Lafourche	37.2	0.5	19.5	12.3
47. Jefferson Davis	37.3	0.0	10.7	5.8
48. St. Charles	38.1	0.0	13.3	7.4
49. St. Mary	38.3	1.6	12.6	11.0
50. Washington	38.9	0.5	10.1	8.5
51. Terrebonne	39.4	0.4	12.0	9.7
52. Webster	42.8	1.1	18.9	12.9
53. Rapides	43.7	1.1	20.5	9.5
54. Bossier	44.1	1.0	32.7	18.3
55. Ouachita	45.2	0.8	25.5	14.9
56. Iberia	46.0	0.0	6.2	5.7
57. St. Tammany	49.4	1.4	15.8	13.0
58. Lafayette	52.5	1.3	16.1	10.3
59. St. Bernard	52.6	0.0	20.8	17.6
60. Caddo	54.5	1.1	36.4	22.9
61. Calcasieu	55.2	0.6	14.0	10.7
62. Jefferson	68.4	0.3	13.3	10.7
63. E. Baton Rouge	70.0	0.6	30.9	18.3
64. Orleans	74.7	0.4	8.2	6.5

TABLE 5
POLIOMYELITIS CASES AND DEATHS, LOUISIANA
1948-1958

Year	Total Polio Cases	Number of Paralytic Polio Cases	Number of Non-Paralytic Polio Cases	Number of Polio Deaths
1948	163	163	------	19
1949	227	227	------	10
1950	409	278	131	22
1951	867	578	289	36
1952	871	613	258	34
1953	438	209	229	12
1954	537	319	218	16
1955	383	242	141	13
1956	608	414	194	23
1957	169	74	95	6
1958	75	54	21	5

TABLE 6
POLIOMYELITIS RATES AND RATIOS, LOUISIANA
1948-1958

Year	Polio Death Rates per 1,000 Cases of Polio	Polio Death Rates per 1,000 Paralytic Cases	Ratio of all Polio Cases to Paralytic Cases	Ratio of Paralytic to Non-Paralytic Cases	Polio Case Rates per 100,000 Population	Polio Death Rates per 100,000 Population
1948		116.5				0.72
1949		44.0				0.38
1950	53.7	79.0	1.5:1	2:1	15.34	0.82
1951	41.5	62.0	1.5:1	2:1	31.83	1.32
1952	39.0	55.0	1.4:1	2.4:1	31.47	1.23
1953	27.0	57.0	2.1:1	0.9:1	15.71	0.43
1954	29.7	50.0	1.7:1	1.5:1	19.05	0.57
1955	33.9	53.7	1.6:1	1.7:1	13.43	0.46
1956	37.8	55.5	1.5:1	2:1	21.09	0.80
1957	35.5	81.0	2.2:1	0.8:1	5.40	0.19
1958	66.7	92.6	1.4:1	2.5:1	2.35	0.16

TABLE 7
PARISHES IN LOUISIANA CLASSIFIED INTO QUARTILES ACCORDING TO THEIR POPULATION DENSITY PER SQUARE MILE, AND GROUPED ACCORDING TO THEIR AVERAGE DEATH RATES PER 100,000 POPULATION FROM POLIOMYELITIS FOR THE 11 YEAR PERIOD, 1948-1958

Average Poliomyelitis Death Rates per 100,000 Population in each Parish with a greater rate than	Parishes arranged into Quartiles (16 parishes in each Quartile) from Lowest to Highest Population Densities per square mile			
	1st Quartile (Parishes with Lowest Population Densities)	2nd Quartile	3rd Quartile	4th Quartile (Parishes with Highest Population Densities)
3.0	2 parishes	1 parish	1 parish	0 parish
2.5	3 parishes	1 parish	1 parish	0 parish
2.0	3 parishes	1 parish	2 parishes	0 parish
1.5	5 parishes	1 parish	2 parishes	1 parish
1.0	8 parishes	6 parishes	6 parishes	4 parishes
0.5	10 parishes	11 parishes	8 parishes	10 parishes

There appears to be some indication of correlation between higher average poliomyelitis death rates and lower population densities in those parishes having average poliomyelitis death rates higher than 1.0 per 100,000 population, i.e., the lower the population densities in such parishes, the more likely, in the Louisiana experience, are their average poliomyelitis death rates expected to be higher.

TABLE 8

PARISHES IN LOUISIANA CLASSIFIED INTO QUARTILES ACCORDING TO THEIR POPULATION DENSITY PER SQUARE MILE, AND GROUPED ACCORDING TO THEIR AVERAGE POLIOMYELITIS CASE RATES PER 100,000 POPULATION FOR THE 11 YEAR PERIOD, 1948-1958

Average Poliomyelitis Case Rates per 100,000 Population in each Parish with a lower rate than	Parishes arranged into Quartiles (16 parishes in each Quartile) from Lowest to Highest Population Densities per square mile			
	1st Quartile (Parishes with Lowest Population Densities)	2nd Quartile	3rd Quartile	4th Quartile (Parishes with Highest Population Densities)
10	9 parishes	1 parish	3 parishes	3 parishes
15	12 parishes	8 parishes	9 parishes	11 parishes
20	15 parishes	12 parishes	11 parishes	12 parishes
25	15 parishes	14 parishes	13 parishes	13 parishes
30	15 parishes	15 parishes	14 parishes	14 parishes

There appears to be some correlation between lower average poliomyelitis case rates and lower population densities in those parishes having average poliomyelitis case rates lower than 15 cases per 100,000 population, i.e., the lower the population densities in such parishes, the more likely, in the Louisiana experience, are their average poliomyelitis case rates expected to be lower.

TABLE 9

PARISHES IN LOUISIANA CLASSIFIED INTO QUARTILES ACCORDING TO THEIR POPULATION DENSITY PER SQUARE MILE, AND GROUPED ACCORDING TO THEIR AVERAGE POLIOMYELITIS PARALYTIC CASE RATES PER 100,000 POPULATION FOR THE 11 YEAR PERIOD, 1948-1958

Average Poliomyelitis Paralytic Case Rates per 100,000 Population in each Parish with a lower rate than	Parishes arranged into Quartiles (16 parishes in each Quartile) from Lowest to the Highest Population Densities per square mile			
	1st Quartile (Parishes with Lowest Population Densities)	2nd Quartile	3rd Quartile	4th Quartile (Parishes with Highest Population Densities)
5.0	3 parishes	1 parish	1 parish	0 parish
7.5	10 parishes	3 parishes	6 parishes	3 parishes
10.0	12 parishes	8 parishes	9 parishes	8 parishes
12.5	14 parishes	11 parishes	12 parishes	13 parishes
15.0	15 parishes	13 parishes	14 parishes	14 parishes

There appears to be fairly evident correlation between lower average poliomyelitis paralytic case rates and lower population densities in those parishes having average paralytic case rates less than 10 cases per 100,000 population, i.e., the lower the population densities in such parishes, the more likely, in the Louisiana experience, are their average poliomyelitis paralytic case rates expected to be lower.

TABLE 10

PARISHES IN LOUISIANA CLASSIFIED INTO QUARTILES ACCORDING TO THEIR DEGREE OF RURALITY, AND GROUPED ACCORDING TO THEIR AVERAGE DEATH RATES PER 100,000 POPULATION FROM POLIOMYELITIS FOR THE 11 YEAR PERIOD, 1948-1958

Average Poliomyelitis Death Rates per 100,000 Population in each Parish with a greater rate than	Parishes arranged into Quartiles (16 parishes in each Quartile) from the Highest Degree of Rurality to the Lowest			
	1st Quartile (Parishes with Highest Degree of Rurality)	2nd Quartile	3rd Quartile	4th Quartile (Parishes with Lowest Degree of Rurality)
3.0	3 parishes	0 parish	1 parish	0 parish
2.5	3 parishes	0 parish	2 parishes	0 parish
2.0	3 parishes	0 parish	3 parishes	0 parish
1.5	4 parishes	1 parish	3 parishes	1 parish
1.0	6 parishes	5 parishes	8 parishes	5 parishes
0.5	8 parishes	9 parishes	11 parishes	11 parishes

There appears to be no correlation between the average poliomyelitis death rates of parishes and their degree of rurality.

TABLE 11

PARISHES IN LOUISIANA CLASSIFIED INTO QUARTILES ACCORDING TO THEIR DEGREE OF RURALITY, AND GROUPED ACCORDING TO THEIR AVERAGE CASE RATES PER 100,000 POPULATION FROM POLIOMYELITIS FOR THE 11 YEAR PERIOD, 1948-1958

Average Poliomyelitis Case Rates per 100,000 Population in each Parish with a lower rate than	Parishes arranged into Quartiles (16 parishes in each Quartile) from the Highest Degree of Rurality to the Lowest			
	1st Quartile (Parishes with Highest Degree of Rurality)	2nd Quartile	3rd Quartile	4th Quartile (Parishes with Lowest Degree of Rurality)
10	6 parishes	4 parishes	3 parishes	3 parishes
15	10 parishes	9 parishes	10 parishes	10 parishes
20	13 parishes	12 parishes	14 parishes	11 parishes
25	13 parishes	14 parishes	16 parishes	12 parishes
30	15 parishes	14 parishes	16 parishes	13 parishes

There appears to be no correlation between the average poliomyelitis case rates of parishes and their degree of rurality.

TABLE 12

PARISHES IN LOUISIANA CLASSIFIED INTO QUARTILES ACCORDING TO THEIR DEGREE OF RURALITY, AND GROUPED ACCORDING TO THEIR AVERAGE PARALYTIC CASE RATES PER 100,000 POPULATION FROM POLIOMYELITIS FOR THE 11 YEAR PERIOD, 1948-1958

Average Poliomyelitis Paralytic Case Rates per 100,000 Population in each Parish with a lower rate than	Parishes arranged into Quartiles (16 parishes in each Quartile) from the Highest Degree of Rurality to the Lowest			
	1st Quartile (Parishes with Highest Degree of Rurality)	2nd Quartile	3rd Quartile	4th Quartile (Parishes with Lowest Degree of Rurality)
5.0	2 parishes	2 parishes	1 parish	0 parish
7.0	8 parishes	5 parishes	4 parishes	5 parishes
10.0	11 parishes	8 parishes	10 parishes	8 parishes
12.5	13 parishes	12 parishes	13 parishes	12 parishes
15.0	14 parishes	13 parishes	16 parishes	13 parishes

Although there appears to be a slight tendency of correlation between higher degree of rurality and lower average poliomyelitis paralytic case rates in those parishes having paralytic case rates less than 10 per 100,000 population, such a relationship can really not be deduced since even the slight tendency is scarcely enough to claim even slight validity.

TABLE 13

PARISHES IN LOUISIANA CLASSIFIED INTO QUARTILES ACCORDING TO THEIR MEDIAN ANNUAL INCOME IN 1950, AND GROUPED ACCORDING TO THEIR AVERAGE DEATH RATES PER 100,000 POPULATION FROM POLIOMYELITIS FOR THE 11 YEAR PERIOD, 1948-1958

Average Poliomyelitis Death Rates per 100,000 Population in each Parish with a greater rate than	Parishes arranged into Quartiles (16 parishes in each Quartile) from Lowest to Highest Median Annual Income			
	1st Quartile (Parishes with Lowest Median Annual Income)	2nd Quartile	3rd Quartile	4th Quartile (Parishes with Highest Median Annual Income)
3.0	1 parish	0 parish	2 parishes	1 parish
2.5	2 parishes	0 parish	2 parishes	1 parish
2.0	3 parishes	0 parish	2 parishes	1 parish
1.5	4 parishes	2 parishes	2 parishes	1 parish
1.0	8 parishes	7 parishes	5 parishes	4 parishes
0.5	13 parishes	10 parishes	9 parishes	7 parishes

There appears to be some indication of correlation between higher average poliomyelitis death rates and lower median annual income of families, i.e., the lower the median annual income of families in parishes, the more likely, in the Louisiana experience, are the average poliomyelitis death rates expected to be higher in such parishes.

TABLE 14

PARISHES IN LOUISIANA CLASSIFIED INTO QUARTILES ACCORDING TO THEIR MEDIAN ANNUAL INCOME IN 1950, AND GROUPED ACCORDING TO THEIR AVERAGE CASE RATES PER 100,000 POPULATION FROM POLIOMYELITIS FOR THE 11 YEAR PERIOD, 1948-1958

Average Poliomyelitis Case Rates per 100,000 Population in each Parish with a lower rate than	Parishes arranged into Quartiles (16 parishes in each Quartile) from Lowest to Highest Median Annual Income			
	1st Quartile (Parishes with Lowest Median Annual Income)	2nd Quartile	3rd Quartile	4th Quartile (Parishes with Highest Median Annual Income)
10	3 parishes	6 parishes	3 parishes	4 parishes
15	10 parishes	12 parishes	8 parishes	10 parishes
20	13 parishes	14 parishes	11 parishes	12 parishes
25	13 parishes	15 parishes	14 parishes	13 parishes
30	14 parishes	15 parishes	15 parishes	14 parishes

There appears to be no correlation between the average poliomyelitis case rates of Parishes and their median annual income of families.

TABLE 15

PARISHES IN LOUISIANA CLASSIFIED INTO QUARTILES ACCORDING TO THEIR MEDIAN ANNUAL INCOME IN 1950, AND GROUPED ACCORDING TO THEIR AVERAGE PARALYTIC CASE RATES PER 100,000 POPULATION FROM POLIOMYELITIS FOR THE 11 YEAR PERIOD, 1948-1958

Average Poliomyelitis Paralytic Case Rates per 100,000 Population in each Parish with a lower rate than	Parishes arranged into Quartiles (16 parishes in each Quartile) from the Lowest to the Highest Median Annual Income			
	1st Quartile (Parishes with Lowest Median Annual Income)	2nd Quartile	3rd Quartile	4th Quartile (Parishes with Highest Median Annual Income)
5.0	1 parish	3 parishes	1 parish	0 parish
7.5	7 parishes	6 parishes	4 parishes	5 parishes
10.0	10 parishes	12 parishes	8 parishes	7 parishes
12.5	13 parishes	14 parishes	12 parishes	11 parishes
15.0	14 parishes	15 parishes	14 parishes	13 parishes

There appears to be no correlation between the average poliomyelitis paralytic case rates of parishes and their median annual income of families.

TABLE 16

PARISHES IN LOUISIANA CLASSIFIED INTO QUARTILES ACCORDING TO THEIR DEGREE OF HOUSING SANITATION, AND GROUPED ACCORDING TO THEIR AVERAGE DEATH RATES PER 100,000 POPULATION FROM POLIOMYELITIS FOR THE 11 YEAR PERIOD, 1948-1958

Average Poliomyelitis Death Rates per 100,000 Population in each Parish with a greater rate than	Parishes arranged into Quartiles (16 parishes in each Quartile) from the Lowest to the Highest Degree of Housing Sanitation			
	1st Quartile (Parishes with Lowest Degree of Housing Sanitation)	2nd Quartile	3rd Quartile	4th Quartile (Parishes with Highest Degree of Housing Sanitation)
3.0	2 parishes	1 parish	1 parish	0 parish
2.5	3 parishes	1 parish	1 parish	0 parish
2.0	3 parishes	2 parishes	1 parish	0 parish
1.5	4 parishes	3 parishes	1 parish	1 parish
1.0	7 parishes	7 parishes	4 parishes	6 parishes
0.5	9 parishes	10 parishes	10 parishes	10 parishes

There appears to be no evidence of correlation between average poliomyelitis death rates and the degree of housing sanitation.

TABLE 17

PARISHES IN LOUISIANA CLASSIFIED INTO QUARTILES ACCORDING TO THEIR DEGREE OF HOUSING SANITATION, AND GROUPED ACCORDING TO THEIR AVERAGE CASE RATES PER 100,000 POPULATION FROM POLIOMYELITIS FOR THE 11 YEAR PERIOD 1948-1958

Average Poliomyelitis Case Rates per 100,000 Population in each Parish with a lower rate than	Parishes arranged into Quartiles (16 parishes in each Quartile) from the Lowest to the Highest Degree of Housing Sanitation			
	1st Quartile (Parishes with Lowest Degree of Housing Sanitation)	2nd Quartile	3rd Quartile	4th Quartile (Parishes with Highest Degree of Housing Sanitation)
10	6 parishes	5 parishes	3 parishes	2 parishes
15	11 parishes	10 parishes	12 parishes	7 parishes
20	14 parishes	12 parishes	14 parishes	10 parishes
25	14 parishes	14 parishes	15 parishes	12 parishes
30	15 parishes	14 parishes	16 parishes	13 parishes

There appears to be no evidence of correlation between average poliomyelitis case rates and degree of housing sanitation.

TABLE 18

PARISHES IN LOUISIANA CLASSIFIED INTO QUARTILES ACCORDING TO THEIR DEGREE OF HOUSING SANITATION, AND GROUPED ACCORDING TO THEIR AVERAGE PARALYTIC CASE RATES PER 100,000 POPULATION FROM POLIOMYELITIS FOR THE 11 YEAR PERIOD, 1948-1958

Average Poliomyelitis Paralytic Case Rates per 100,000 Population in each Parish with a lower rate than	Parishes arranged into Quartiles (16 parishes in each Quartile) from Lowest to Highest Degree of Housing Sanitation			
	1st Quartile (Parishes with Lowest Degree of Housing Sanitation)	2nd Quartile	3rd Quartile	4th Quartile (Parishes with Highest Degree of Housing Sanitation)
5.0	3 parishes	1 parish	1 parish	0 parish
7.5	9 parishes	6 parishes	5 parishes	2 parishes
10.0	13 parishes	8 parishes	11 parishes	5 parishes
12.5	14 parishes	12 parishes	15 parishes	9 parishes
15.0	15 parishes	14 parishes	15 parishes	12 parishes

There appears to be evidence of correlation between the average poliomyelitis paralytic case rates and housing sanitation, i.e., the poorer the housing sanitation of parishes, the more likely, in the Louisiana experience, are more of these parishes expected to show lower paralytic case rates.

TABLE 19

LABORATORY FINDINGS BY VIRUS ISOLATION ON 406 CASES OF CLINICALLY DIAGNOSED POLIOMYELITIS, AND VACCINATION STATUS OF CASES, LOUISIANA, 1956

Clinical Diagnosis and Vaccination Status	Virus Types Isolated*						Total Isolations	No Isolations	Totals
	I	II	III	I & III	Coxsackie	Echo			
Paralytic Cases	137	3	40	1	0	0	181	55	236
Vaccination Status									
1 injection	15	0	3	0	0	0			
2 injections	3	0	1	0	0	0			
3 injections	0	0	0	0	0	0			
None	119	3	36	1	0	0			
Non-Paralytic Cases	43	1	7	0	1	0	52	118	170
Vaccination Status									
1 injection	3	0	1	0	0	0			
2 injections	0	0	0	0	0	0			
3 injections	2	0	0	0	0	0			
None	38	1	6	0	1	0			
TOTALS	180	4	47	1	1	0	233	173	406

* No complement-fixation tests were made.

TABLE 20

LABORATORY FINDINGS BY VIRUS ISOLATION ON 125 CASES OF CLINICALLY DIAGNOSED POLIOMYELITIS, AND VACCINATION STATUS OF CASES, LOUISIANA, 1957

Clinical Diagnosis and Vaccination Status	Virus Types Isolated*					Total Isolations	No Isolations	Totals
	I	II	III	Coxsackie	Echo			
Paralytic Cases	4	1	1	0	1	7	29	36
Vaccination Status								
1 injection	1	0	unknown	0	0			
2 injections	1	0	unknown	0	0			
3 injections	0	0	unknown	0	0			
None	2	1	unknown	0	1			
Non-Paralytic Cases	5	0	0	4	18	27	62	89
Vaccination Status								
1 injection	0	0	0	1	0			
2 injections	0	0	0	0	2			
3 injections	0	0	0	0	4			
None	5	0	0	3	12			
TOTALS	9	1	1	4	19	34	91	125

* No complement-fixation tests were made.

TABLE 21

LABORATORY FINDINGS BY VIRUS ISOLATION ON 87 CASES OF CLINICALLY DIAGNOSED POLIOMYELITIS, AND VACCINATION STATUS OF CASES, LOUISIANA, 1958

Clinical Diagnosis and Vaccination Status	Virus Types Isolated					Total Isolations	No Isolations	Totals
	I	II	III	Coxsackie	Echo			
Paralytic Cases	9	0	9	0	1	19	13	32
Vaccination Status								
1 injection	1	0	1	0	0			
2 injections	0	0	1	0	0			
3 injections	1	0	1	0	0			
None	7	0	6	0	1			
Non-Paralytic Cases	2	0	0	2	0	4	51	55
Vaccination Status								
1 injection	1	0	0	0	0			
2 injections	0	0	0	0	0			
3 injections	0	0	0	2	0			
None	1	0	0	0	0			
TOTALS	11	0	9	2	1	23	64	87

TABLE 22

RESULTS OF COMPLEMENT FIXATION TESTS DONE ON 87 CASES OF CLINICALLY DIAGNOSED POLIOMYELITIS (SAME CASES AS STUDIED IN TABLE 21) LOUISIANA, 1958

Clinical Diagnosis	Positives, Types			Total Positives	Inconclusive Results	Negatives	Unsatisfactory Specimens	Totals
	I	II	III					
Paralytic	7	0	7	14	1	8	9	**32**
Non-Paralytic	2	0	2	4	1	22	28	**55**

TABLE 23
POLIO VACCINE INJECTIONS IN THREE LOUISIANA PARISHES
1954

Parish	First Injection	Second Injection	Third Injection
Bossier	542	542	537
Caddo	2509	2480	2383
Rapides	735	718	702
TOTAL	3786	3740	3622

TABLE 24
POLIOMYELITIS VACCINE INJECTIONS
LOUISIANA
1956-1958

Year	First Injection	Second Injection	Third Injection
1956	333,273	302,116	150,144
1957	374,517	326,443	298,941
1958*	95,997	70,405	159,129
Totals	803,787	698,964	608,214

* From January through April only, at which time the federally sponsored program was discontinued.

TABLE 25
PARALYTIC POLIOMYELITIS RATES PER 100,000 PERSONS IN VACCINATED AND NON-VACCINATED GROUPS OF THE POPULATION UNDER 20 YEARS OF AGE
(On Basis of 2 Injections Considered as Vaccinated)
LOUISIANA
1956-1958

	Vaccinated			Non-Vaccinated		
Year	Population	Paralytic Cases	Rate	Population	Paralytic Cases	Rate
1956	244,091	18	7.4	916,380	394	43.0
1957	558,370	14	2.5	637,101	60	9.4
1958	803,353	11	1.4	427,118	43	10.7

TABLE 26
PARALYTIC POLIOMYELITIS RATES PER 100,000 PERSONS IN VACCINATED AND NON-VACCINATED GROUPS OF THE POPULATION UNDER 20 YEARS OF AGE
(On Basis of 3 Injections Considered as Vaccinated)
LOUISIANA
1956-1958

	Vaccinated			Non-Vaccinated		
Year	Population	Paralytic Cases	Rate	Population	Paralytic Cases	Rate
1956	80,874	0	0	1,079,597	412	38.1
1957	305,416	5	1.6	890,055	69	7.7
1958	578,134	6	1.0	652,337	48	7.3

TABLE 27

NONPARALYTIC POLIOMYELITIS RATES PER 100,000 PERSONS IN VACCINATED AND NON-VACCINATED GROUPS OF THE POPULATION UNDER 20 YEARS OF AGE
(On Basis of 2 Injections Considered as Vaccinated)

LOUISIANA
1956-1958

	Vaccinated			Non-Vaccinated		
Year	Population	Non-Paralytic Cases	Rate	Population	Non-Paralytic Cases	Rate
1956	244,091	27	11.1	916,380	167	18.2
1957	558,370	41	7.3	637,101	54	8.5
1958	803,353	13	1.6	427,118	8	1.9

TABLE 28

NONPARALYTIC POLIOMYELITIS RATES PER 100,000 PERSONS IN VACCINATED AND NON-VACCINATED GROUPS OF THE POPULATION UNDER 20 YEARS OF AGE
(On Basis of 3 Injections Considered as Vaccinated)

LOUISIANA
1956-1958

	Vaccinated			Non-Vaccinated		
Year	Population	Non-Paralytic Cases	Rate	Population	Non-Paralytic Cases	Rate
1956	80,874	7	8.6	1,079,597	187	17.3
1957	305,416	22	7.2	890,055	73	8.2
1958	578,134	11	1.9	652,337	10	1.5

TABLE 29

POLIOMYELITIS RATES (TOTAL CASES) PER 100,000 PERSONS IN VACCINATED AND NON-VACCINATED GROUPS OF THE POPULATION UNDER 20 YEARS OF AGE
(On Basis of 2 Injections Considered as Vaccinated)

LOUISIANA
1956-1958

	Vaccinated			Non-Vaccinated		
Year	Population	Total Cases	Rate	Population	Total Cases	Rate
1956	244,091	45	18.4	916,380	561	61.2
1957	558,370	55	9.9	637,101	114	17.9
1958	803,353	24	3.0	427,118	51	11.9

TABLE 30

POLIOMYELITIS RATES (TOTAL CASES) PER 100,000 PERSONS IN VACCINATED AND NON-VACCINATED GROUPS OF THE POPULATION UNDER 20 YEARS OF AGE
(On Basis of 3 Injections Considered as Vaccinated)

LOUISIANA
1956-1958

	Vaccinated			Non-Vaccinated		
Year	Population	Total Cases	Rate	Population	Total Cases	Rate
1956	80,874	7	8.6	1,079,597	599	55.4
1957	305,416	27	8.8	890,055	142	16.0
1958	578,134	17	2.9	652,337	58	8.8

available in the more sparsely populated areas, and, therefore, less number of medically diagnosed cases.

3. There appears to be fairly evident correlation between lower average poliomyelitis paralytic case rates and lower population densities in those parishes having average paralytic case rates less than 10 cases per 100,000 population, i.e., the lower the population densities in such parishes, the more likely, in the Louisiana experience, are their average poliomyelitis paralytic case rates expected to be lower (Table 9). The ratio of poliomyelitis case rates to paralytic rates has remained fairly constant in the last decade (Table 6), therefore, this table (No. 9) should show similar interrelationships as in Table 8, which, of course, it does.

4. The degree of rurality of the parishes does not show any correlation with average poliomyelitis death rates, case rates or paralytic case rates. (Tables 10, 11, and 12.) The nature of the definition of rurality usually makes it a poorer, less stable factor to use than population density when considering the epidemiology of communicable diseases.

5. There appears to be some indication of correlation between higher average poliomyelitis death rates and lower median annual income of families, i.e., the lower the median annual income of families the more likely, in the Louisiana experience, are the average poliomyelitis death rates expected to be higher in such parishes; but no correlation was found between either the average poliomyelitis case rates or paralytic case rates and the median annual income of families (Tables 13, 14, and 15).

Decreased income and increased death rates usually correlate for most diseases. The reporting of deaths is much more accurate than reporting of morbidity.

Although no correlation was found between the average poliomyelitis death rates, case rates, and the degree of housing sanitation, it was found that there appears to be evidence of correlation between the average poliomyelitis paralytic case rates and housing sanitation, i.e., the poorer the housing sanitation of parishes, the more likely, in the Louisiana experience, are more of these parishes expected to show lower paralytic case rates (Tables 16, 17, and 18.). Since housing sanitation and income are usually factors which reflect each other, it is difficult to explain why housing sanitation shows no correlation with poliomyelitis death rates while paralytic poliomyelitis does. This could be explained by the accepted premise that poor sanitation confers immunity against poliomyelitis early in life, and therefore case rates, in this instance paralytic case rates, may be lower than under better sanitary conditions.

Summary

There is a need to continue increasing the efforts to obtain laboratory diagnosis for all poliomyelitis cases and deaths, and to improve the techniques of laboratory diagnosis and getting specimens to the laboratory in fresh state.

Although it appears that two injections of vaccine give similar reductions of paralytic cases as do three injections, it is valid at this stage of the control program to consider three injections as a completed series rather than two injections, due to the possible variability of the antigenic character of the vaccine for the three types of poliomyelitis viruses. For the same reason, it is also a valid procedure to give the fourth or booster injection a year after the completed series.

There is a need to step up our efforts for immunizing a much greater proportion of the population in the age-group below 20 years, and also the 20 to 40 year age-group.

The study of the relation of the ecological factors to poliomyelitis should be continued in order that other control measures might be revealed and pin-pointed for program planning.

Antipoliomyelitis Serum: Prospects for a Therapeutically Effective Serum*

• Owing to the sudden death of Dr. Fasting from a heart attack this manuscript has been annotated by Dr. E. C. Rosenow.†

GEORGE F. FASTING, M. D.
New Orleans

THE present unsatisfactory status of treatment of virus diseases of man and animals justifies a re-examination of the possibilities of using specific immune sera as a main or component part of treatment.

The adaptation of sundry viruses to tissue culture apart from egg-embryo growth has provided large quantities of virus antigen with relatively little foreign protein to complicate the antibody composition. The production and availability of the Salk "virus" vaccine against poliomyelitis presents the opportunity of testing the above concept. Failure to produce an effective therapeutic serum against poliomyelitis with either the Salk vaccine, or the living poliomyelitis virus from tissue culture, might reveal the difficulties to be encountered in producing antisera with other virus preparations.

The problem of preparing a specific immune serum against poliomyelitis by the use of the Salk vaccine was submitted for opinion to two sources presumed to be authorities on the question.

Opinion from Council on Pharmacy, AMA

The reply obtained from a consultant of the Council of Pharmacy of the American Medical Association was as follows:

"Prolonged treatment of large animals with the virus of poliomyelitis, to which they are unsusceptible, has not in the past yielded serums of proven value in the treatment or prophylaxis of the disease. Our present knowledge and past experience would not lead us to expect that such serums, made with the Salk vaccine, would be of use in treatment, and one would hesitate to use a foreign (nonhuman) serum for prophylaxis when gamma globulin is available."

Opinion from National Foundation

The following excerpts are taken from a reply from the research division of the National Foundation for Infantile Paralysis:

"It is possible to produce poliomyelitis antisera in animals. Such antisera were prepared and used successfully in the treatment of epidemic poliomyelitis [1] long before the development of the Salk vaccine.

"High potency monkey antiviral sera showed no therapeutic effect in experimental poliomyelitis in monkeys.

"There is no good evidence that antiviral serum therapy is of any benefit whatever if it is started after the illness of poliomyelitis has developed."

The results in prevention and treatment by Rosenow with the poliomyelitis antistreptococcal horse serum were highly favorable especially when given before or at the onset of paralysis.[2]

"Paralysis may develop or grow more severe in the presence of antibody."

However, this did not occur in poliomyelitis during treatment with the poliomyelitis antistreptococcus horse serum.[2]

The statements offered by the two con-

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sultants might have been accepted without challenge but for the fact that certain clinical and immunological data were published some twenty-five and thirty years ago.[1, 2] These very important data seemingly have been ignored. They should have been taken into account by investigators to effect a possible success in experimental and clinical serotherapy.

"Residual Antigen" in Immune Sera

In the past "antipoliomyelitis" serum was obtained either from convalescent victims, from animals repeatedly inoculated with brain-virus mixture, and from horses immunized with the streptococcus isolated in studies of poliomyelitis.[1, 2] Use of the brain-virus antigen was followed by production of brain antibodies of various intensities. Such immune sera in common with convalescent sera from monkeys and man indicated the presence of a factor which has not received due recognition. This factor may be called "residual antigen." The co-existence of "residual antigen" (original antigen and its derivatives formed after inoculation) with related specific antibodies in any immune serum may at first appear to be a strange concept. Yet, such co-existence explains in part the previously quoted statement: "Paralysis may develop or grow worse in the presence of antibody."[1] How, otherwise, is one to explain the presence of specific antibodies with disease symptoms in chronic brucellosis, tularemia and other diseases? The element of disease, has, in fact, *not* been "neutralized" by the antibodies which served the diagnostic requirements.

It is known that "normal" and immune sera carry pyrogenic elements. These appear as lipoidal substances usually linked to the alpha and beta globulins. The removal of these pyrogens and of the "residual antigens" becomes then a paramount problem in preparing immune sera for therapy.

Felton's Method

The ready removal of the noxious elements and the simultaneous separation of immune body carrying gamma globulin can be accomplished with certain immune horse sera by diluting one part of the serum with ten parts of weakly acidulated water; the pH of the final mixture should not drop below 6.5. The procedure was introduced by Felton[3, 4] some thirty years ago in the preparation of the original pneumococcal antibody solution. The product was "Council Accepted" for treatment of lobar pneumonia.

Unfortunately, Felton's method was later modified to cause total precipitation of all globulins with sodium sulfate; the globulins were then fractionated, but a small amount of pyrogenic element remained in the final product.

In accordance with present day terminology Felton's antibody solution should be classified as a specific equine gamma globulin. The clinical results with Felton's antibody solution were generally well known and established in the years preceding the use of "sulpha" drugs. Our present concern with this product is twofold: (1) that an equine source need not be a deterrent to the use of a specific gamma globulin to be employed in man: and (2) the dilution method is a means of removing a large part of antagonistic elements from the antibodies in certain immune sera.

Felton's earlier method was modified by this author to incorporate 5 per cent ether in the acidulated diluent prior to adding the serum.[3, 4] The effect of adding ether was to lower surface tension which resulted in very rapid precipitation of the gamma globulin. With this method it would be possible for most hospitals to prepare, in a few hours, adequate amounts of immune globulins from suitable antisera for therapeutic administration.

Use in Chronic Ulcerative Colitis

Clinical trials were made at the Mayo Clinic on 50 paients with well-established chronic ulcerative colitis.[5] An equine gamma globulin specific against a strain of streptococcus was prepared by the above method and was then injected subcutaneously daily in small amounts. Of

particular interest to our problem are the beneficial therapeutic results and the absence of complications which are in sharp contrast to experiences in similar earlier trials with the whole "mother" serum or its fivefold concentrate by the ammonium sulfate method.

Use in Acute Poliomyelitis

The gamma globulin of antistreptococcal serum prepared by Rosenow at the Mayo Foundation by immunizing horses with the poliomyelitis streptococcus was tried on patients with acute poliomyelitis.[1, 2] These streptococci were at the time of isolation of distinct serologic property and possessed a particular affinity for the anterior horns of the spinal cord of monkeys, rabbits, and guinea pigs on intravenous injection. Recent unpublished experiments indicate that specially preserved suspensions of these streptococci were agglutinated by the serum prepared in horses with the Salk vaccine and that other streptococci similarly preserved were not agglutinated.

The prompt suppression of fever and amelioration of symptoms in the poliomyelitis cases reported by Rosenow[2] are difficult to ascribe to a "foreign protein" reaction as this term is generally understood but were due to specific neutralization of toxic products of the virus and the neurotropic streptococcus.

Of considerable significance was the observation made by Rosenow that in persons having epidemic poliomyelitis and in monkeys that developed poliomyelitis following inoculation of the poliomyelitis virus the special equine whole antiserum and the gamma globluin fraction of such antiserum produced, on intradermal injection, an erythematous local reaction within fifteen minutes indicating circulating poliomyelitis streptococcal antigen.

If, after such a test, the patients having poliomyelitis were given a therapeutic injection of the poliomyelitis antistreptococcal serum or the corresponding solution of gamma globulin then after twenty-four hours a repeat intradermal test gave a far lesser or no reaction.[6] In this respect the cutaneous reaction paralleled the Schultz-Charlton tests in scarlet fever.

Serum from Salk Vaccine

With the foregoing information in mind the problem of immunizing horses with the Salk vaccine was undertaken. Liberal quantities of the vaccine were supplied by a noted pharmaceutical firm. The following observations have been made:

1. Repeated injections of the Salk vaccine in the horse have resulted in a high titer serum for the three main types of poliomyelitis virus in the vaccine.

2. The toxicity of the resulting serum for monkey kidney tissue did not exceed a 1:2 dilution. This is considered to be normal for any normal horse serum.

3. Subsequent inoculations with a mixture of live poliomyelitis viruses resulted in a toxicity of the immune serum approximating a 1:100 dilution.

4. Precipitation of the gamma globulin from the toxic serum by the acidulated water dilution method at pH 6.8 yielded a product shown to be *nontoxic* when tested against HeLa and monkey kidney tissue cells.

5. A trial bleeding of the above horse, one hundred and four days after the bleeding that yielded the toxic serum, gave a *nontoxic* serum.

6. Cutaneous reactions to skin tests in patients having poliomyelitis were marked to the gamma globulin fraction and minimal to the whole "mother" serum.

Having achieved a certain measure of technical success in producing and refining an antipoliomyelitis serum, we felt compelled to project the problem into the phase of therapeutic usefulness.

Therapeutic Trial

Patients having poliomyelitis were given subcutaneous injections of 25 milligrams of nitrogen in the respective globulin at one injection. Compared with serotherapies in other diseases in the past, the stated amounts would seem rather small. If one may assume from the skin tests carried on in the poliomyelitis patients that a specific gamma globulin is

capable of rapid penetration in the skin, may it not be inferred that the subcutaneous route of administering the gamma globulin should be adequate in therapy?

The gamma globulins employed in the treatment of poliomyelitis patients were prepared as needed or stored in the cold for only a couple of weeks. Freshly prepared specific gamma globulins may be of great value in therapy. The precipitation of the gamma globulin entails the loss of protective colloids present in the whole serum, and exposes the globulin to oxidation at an enhanced rate with known loss of agglutinins.

From the foregoing statements it should seem evident that the successful production of an antipoliomyelitis serum, as measured by conventional titration procedures, will require for satisfactory therapeutic results a process of "purification" and caution in its administration. In all probability a similar view must be held for other antiviral sera as they become available. It is hoped that clinical trials will soon confirm the usefulness of the specific gamma globulin from an immune equine serum resulting from the immunization with the Salk virus vaccine comparable to the use of poliomyelitis antistreptococcal serum.[1, 2]

Summary

Antipoliomyelitis serum has been produced in the horse with the Salk vaccine. The "dilution" procedure permits harvesting in a few hours the precipitate of the immune body carrying globulin. Toxic elements from the employed antigen and "inhibitory" elements in the whole serum are largely removed by the direct "dilution" technic. A "specific" gamma globulin against poliomyelitis can thus be made available for the treatment of epidemic poliomyelitis.

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Health of the City

In our editorial comments upon the health of this city, in the last number of the Journal, we remarked that serious apprehensions were entertained by many, that we should be visited by an epidemic of yellow fever. We are gratified, however, to be able to state that although fever prevailed to a considerable extent, yet it was mild, and amenable to treatment, and for this reason, as well as on account of the comparatively small number attacked, the Board of Health declared it not to be an epidemic; besides the yellow fever, another affection called the **Dengue** also made its appearance in our midst; in its onset, it resembled in many of its features the yellow fever. * * * Previous attacks of fever did not exempt persons from an attack of the **Dengue**. We believe but a few if any cases proved fatal, as the affection passed off in a few hours, or at most a few days, when opposed by mild cathartics, tepid drinks, hot foot baths, and the sulphate of quinine. It disappeared with the yellow fever.

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Editorial

The Treatment of Narcotic Addicts and the Control of Narcotic Traffic

About two years ago, the topic stated in the title was discussed in these columns.[1] The opposing viewpoints were presented. They were not entirely divergent in theory, but far apart in the practical handling of the problem. On the one hand, it was stated that drug addiction should be treated as an illness and not as a crime; that in such a situation medical psychiatric and social services should be made available to addicts. The other point of view was that 80 per cent of addicts are criminals first and become addicts in association with other addicts; that addicts cannot be cured on an ambulatory basis and that treatment in the two special hospitals for narcotic addiction, even though maintained for a sufficient time, was followed by relapse on the part of approximately two thirds. In such a situation prevention and control of addiction, together with the control of narcotic traffic, necessarily become a matter of legal and administrative procedure at the point where effectiveness of medical knowledge stops. This position still appears to be the one which organized medicine should support in the public interest.

Consideration is again being given at this time to the general problem following the final report of the Joint American Bar Association, American Medical Association Committee on Narcotic Drugs. A joint committee was formed "to explore the possibilities of a jointly conducted study of the narcotic drug traffic and related problems." Its conclusions were two: "That the present methods of dealing with narcotic addiction and narcotic addicts raised questions which are urgently in need of study, and that the legal and medical professions equally concerned can most fruitfully pursue the subject in close cooperation through their respective associations." The recommendation was a corollary to the two conclusions, namely, that the two organizations continue the study of narcotic traffic and related problems. In support of its conclusions and recommendations, the report of the joint

committee makes numerous observations. They felt that additional experience and data were needed to appraise alternative methods of controlling narcotic addiction and dealing with the drug addict.

Additional research in five major areas was suggested as follows:

"1. An experimental facility for the out-patient treatment of drug addicts, to explore the possibilities of dealing with at least some types of addicted persons in the community rather than in institutions.

"2. An extensive study of relapse and causative factors in drug addiction.

"3. The development of sound and authoritative techniques and programs for the prevention of drug addiction.

"4. A critical evaluation of present legislation on narcotic drugs and drug addiction.

"5. A study and analysis of the administration of present narcotic laws."

Consideration of these several proposed fields of investigation calls for comment. The establishment of an experimental facility for the out-patient treatment of addicts has been tried in the past in this country and in various others, notably here in the period between 1919 and 1923. The result was so bad in most areas that the plan was condemned by the A.M.A., and ultimately abandoned. In other countries it has been equally a failure.

Research into the causes of relapse and inquiry into the possible programs for the prevention of drug addiction have been undertaken under suitable auspices for some time past. Ultimately, the findings in such investigations are going to be helpful.

The fourth and fifth probably have a bearing on the committee's attitude toward that phase of the federal narcotic laws administration that prevents the prescribing and dispensing of narcotics to drug addicts merely for the purpose of gratifying addiction. This matter has been considered and discussed since the first enactment of the Harrison Narcotic Act. It has also recently had thorough investigation independently by two committees in Congress. The conclusions arrived at on the part of the majority of those who are familiar with the problem, and by the two Congressional committees, were that the present laws and the current interpretation of the administration serve the best public interest.

Further observations by the joint committee, while admitting "zealous law enforcement efforts have unquestionably played a part in reducing drug addiction —and will indisputably continue to be required—in curbing the ilicit drug traffic" raised the question as to whether the law enforcement policies urged by the U. S. Narcotic Bureau provide the full answer to the problem, and whether severe jail and prison sentences are the most rational way of dealing with narcotic addicts.

The Committee pleads that the addict, because of his physical and psychological dependence upon drugs and because of his frequently abnormal personality patterns, would be as much of a subject of concern to medicine and public health as to those having to do with law enforcement. The comment, however, from those whose experience in this field is extensive, is that where medical and psychological approaches to the problem fail there is no other way to deal with the addict or peddlar, or both, than through the proper administration of laws which have been found to be effective.

The joint committee report was presented to the House of Delegates of the American Medical Association by the Board of Trustees in the June 1959 meeting. The report of the reference committee, which was approved by the House, was as follows:

"Your reference committee wishes to congratulate the Joint AMA-ABA Committee on Narcotic Drugs on its long, tedious, and fruitful work on the broad subject of narcotics. The Committee is to be commended for its efforts and results. Since the recommendation is for continued study under separate, already established councils of the AMA and ABA, your reference committee urges its imple-

mentation as soon as possible."

This action of the committee is interpreted as not adopting or approving the joint committee's report, except insofar as it pertains to further study. This means that the House did not depart from its previously taken position of objecting to a plan of treating drug addicts by continuing to supply regular dosage of the drug of addiction nor did it revoke its long standing policy of opposition to the so-called ambulatory treatment.

The position, therefore, of organized medicine seems to be that of disapproving clinics for ambulatory treatment, and favoring adequate administration of effective law, and further investigation into the fundamentals of the drug addiction problem. Caution and conservatism in this field are to be commended.

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[1] Editorial: Proposed changes in the medical and legal handling of narcotic addiction, J. Louisiana State M. Soc. 109:267, (July) 1957.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

INCREASE IN BENEFITS COVERED BY HEALTH INSURANCE POLICIES

Benefit provisions in health insurance policies covering hospital and surgical care have been improved steadily throughout the 1950's, the Health Insurance Institute reported.

In 1951, a survey of some 101 insurance companies showed that the top daily hospital allowance offered by 89% of these companies averaged $8 or less, the Institute said. At that time, only 5% of the total number of companies surveyed offered a policy paying $10 a day or more.

Three years later, with the added experience which insurance companies gained with this form of health insurance protection, the situation had changed. In 1954, a survey of 186 insurance companies disclosed that 72% offered policies with hospital benefits of $15 a day or more. Some 11% offered policies at $20 a day and 4% offered $25 daily or more. Only three of the companies surveyed that year had a maximum daily hospital benefit of $8.

The trend toward more adequate daily hospital benefits had continued, the Institute found.

A recent review of 188 insurance companies indicated that 93% offer maximum daily hospital benefit of $15 or more. This same analysis, reported the Institute, showed that 32% of the surveyed companies offer $20 a day or more, and 17% of the companies offer upwards of $25 a day. In addition, at least three companies have policies with hospital benefits of $30 a day or more.

The maximum duration of stay in the hospital also has been extended the Institute stated.

The 1951 survey of 101 companies indicated that 59% of the companies offered a maximum of 90 days of hospitalization a year and that 12% of the companies offered more than 120 days. The 1954 study of 181 companies disclosed 51% offered 90 days and 20% offered 120 days or more. A more recent analysis of 188 companies indicated that about 32% would write 120 days or more, and that 18% would cover hospitalization up to a year.

The broadening of benefits in available health insurance policies also holds true for surgical expense coverage, said the Institute. Among 183 companies surveyed in 1954, some 16% offer maximum surgical benefits of $300 or more. Currently, of 188 companies analyzed, 72% offer a surgical maximum of $300 or more.

GOOD WORK OF THE SOCIETY

Last month it was called to the attention of the Society that the American Legion at its state meeting of 1958 had endorsed a resolution to enable chiropractors to practice in VA hospitals. Doctor Ralph Riggs did excellent work after this information was brought to his attention and contacted the local American Legion, which he found most cooperative. He and Doc-

tor Broox Garrett met with some members of the American Legion here and valuable information was obtained. This information was transmitted to Doctor Robyn Hardy, President of the Louisiana State Medical Society, and Doctor C. Grenes Cole, Secretary-Treasurer. By hard and excellent work on the part of the State Society, the Resolutions Committee of the American Legion met and did not endorse chiropractic care for patients in VA hospitals for 1959.

It was shown clearly that the American Legion would like very much to work in close cooperation with the doctors of the state and local societies. More doctors who are eligible for membership should take an active part in the American Legion. Doctor Riggs is to be particularly congratulated for his excellent work. Also, Doctor Broox Garrett.

The American Legion is to be commended for its attitude toward us. We should cultivate each other.

C. E. Boyd, M. D.
Fourth District Councilor
Louisiana State Medical Society

We wish to further add to this article by Dr. Boyd that Dr. Cole, our Secretary, although on his vacation at his country home, spent an entire day including part of the night in contacting members of the Resolutions Committee of the State Branch of the American Legion requesting that they refuse to approve any resolution recommending to the national group that Chiropractors be allowed to practice in Veterans' Administration Hospitals. We are happy to report that all eight members of this Committee, in addition to the State Commander, assured us that they would definitely oppose such a resolution, and at their meeting in Baton Rouge they refused to support such a resolution suggested by the chiropractors.

It is our concerted belief that, if more of our doctors who are eligible for membership, or who are already members of the Legion would attend the meetings of the Legionnaires that a situation like this would never develop or if it did come up that such a move would be nipped in its bud, and this last minute rush of contacts would be avoided. We strongly urge that more of our doctors attend their Legion meetings, thereby protecting their own and the profession's interest.

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

LOUISIANA ACADEMY OF GENERAL PRACTICE

Thirteenth Annual Scientific Assembly

The Louisiana Academy of General Practice will hold its Thirteenth Annual Scientific Assembly on October 20-22, 1959, at the Capitol House in Baton Rouge, Louisiana, it was announced by Dr. Francis I. Nicolle of New Orleans, Secretary of the organization.

The Congress of Delegates of the Academy will be in session on the morning of Tuesday, October 20. Speaker of the Congress is Dr. Eldredge L. Carroll of Columbia and vice-speaker is Dr. John G. McClure of Welsh. The scientific sessions will begin on the afternoon of Tuesday, October 20 in the Ballroom of the Capitol House.

The scientific portion of the program has been accepted for eleven hours Category I credit by the American Academy of General Practice which can be applied toward the 150 total hours of postgraduate study needed for each three-year period of continuing membership in the Academy.

Dr. Rafael C. Sanchez of New Orleans, Chairman of the Committee on Scientific Assembly, has arranged for a series of interesting and informative speakers, and in addition special medical films to round out the scientific program.

Dr. Frank G. Rieger of Baton Rouge is Convention Chairman and his committee chairmen include Dr. J. E. Williams, Dr. P. M. Castro, Dr. H. B. Holden, Dr. Melvin D. Robinson, Dr. G. C. Black, Dr. T. Y. Gladney, Dr. C. R. Chestnutt, Dr. R. C. A. Bock, Dr. M. O. Holt, Dr. J. W. Lorio, Dr. F. A. deJean and Dr. J. M. Hopper, all of Baton Rouge; Dr. C. B. Smith of Baker and Dr. R. J. Berthelot of Zachary.

Convention Chairman for the Woman's Auxiliary is Mrs. Melvin D. Robinson of Baton Rouge. Co-Chairman is Mrs. Mortimer F. Currier of Plaquemine.

On Wednesday, October 21, the Louisiana Academy will hold its annual installation dinner, at which time Academy officers for the coming year will be presented. The installing officer will be Dr. John G. Walsh of Sacremento, California, President-elect of the American Academy of General Practice. Dr. Thomas H. Nelson and Dr. Henry D. Pope, Jr., 1959 Mead Johnson Award winners for Graduate Training in General Practice, will be guests of the Academy at this function. Both of these doctors are at present residents at the Huey P. Long Charity Hospital in Pineville. Invocation at installation dinner will be given by the Rt. Rev. Monsignor Herman P. Lohman, Pastor of St. Joseph's Catholic Church in Baton Rouge.

POSTGRADUATE COURSES ON DISEASES OF THE CHEST

The Council on Postgraduate Medical Education of the American College of Chest Physicians will present the following Postgraduate Courses this fall:

14th Annual Course, CLINICAL CARDIOPULMONARY PHYSIOLOGY
Edgewater Beach Hotel,
Chicago, October 5-9

12th Annual Course on DISEASES OF THE CHEST
Park Sheraton Hotel,
New York City, November 9-13

5th Annual Course on DISEASES OF THE CHEST
Ambassador Hotel,
Los Angeles, December 7-11

The course on Clinical Cardiopulmonary Physiology is the second to be presented by the Council on this timely subject. The New York City and Los Angeles courses will offer the most recent advances in the diagnosis and treatment of chest diseases—medical and surgical.

Tuition for each course is $100 including round table luncheon discussions.

Further information may be obtained by writing to the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

FORTHCOMING MEETINGS

The Tennessee Valley Medical Assembly will meet at the Read House in Chattanooga, Tennessee, on September 28 and 29, 1959.

The fourth national cancer conference will meet in Minneapolis, September 13-15, 1960. For further information, contact Medical Arfairs Department, American Cancer Society, 521 W. 57th St., New York 19.

TULANE LIBRARIAN RETIRES

Miss Mary Louise Marshall, librarian of the Rudolph Matas Medical Library and professor of medical bibliography at Tulane medical school, retired in September following her return from a three month tour as library consultant to the medical schools in Colombia, South America. Miss Marshall is the ninth Tulane medical faculty member to visit Colombia as part of the three year old Tulane-Colombia project. Under its terms Tulane cooperates with the seven medical schools of Colombia as advisor on medical education and research. Miss Marshall has served as Tulane medical librarian for 32 years and was appointed professor of medical bibliography in 1949.

Succeeding Miss Marshall is William D. Postell, who has been librarian and professor of medical bibliography at the School of Medicine of Louisiana State University since 1938. Mr. Postell is a past president of the Medical Library Association, has received the Marcia C. Noyes Award of the Association for outstanding contributions to medical librarianship, and is the author or editor of four books and 58 professional articles, among other distinctions.

WEIGHT REDUCING AGENT TERMED INEFFECTIVE

A widely used appetite suppressent has been found to be ineffective in helping obese persons, a group of eastern scientists reported recently.

The suppressent—phenylpropanolamine—is a common ingredient of weight-reducing drugs which are offered to the public without prescriptions. It has been estimated that about 100 million dollars is spent annually for such drugs, the scientists said.

Their report appears in the June 27 Journal of the American Medical Association.

Headed by Dr. Joseph F. Fazekas, Washington, D. C., the group undertook the study to determine the merits of the non-prescription drug as compared with dextro amphetamine, a

prescription drug with known appetite suppressing qualities.

The authors said that any effective weight-reducing program must be administered by a physician who understands the psychological factors which are encountered by persons undergoing treatment.

AMERICAN FRACTURE ASSOCIATION

The 20th Annual Meeting of the American Fracture Association and a one day postgraduate course on fractures will be held at the Roosevelt Hotel in New Orleans, November 1 through 4. Both events are acceptable for credit with the American Academy of General Practice and the Louisiana Academy of General Practice. The Postgraduate Course, sponsored by the Division of Graduate Medicine of Tulane School of Medicine, will grant four and a half hours of credit in category one for registrants. Tuition fee is ten dollars. Participants in the program of the annual meeting include Dr. Howard J. Goldstein, Montgomery, Alabama; Dr. W. Courtney Seagle, Urbana, Illinois; Dr. Jack Wickstrom, New Orleans; Dr. A. H. Biehr, St. Louis; Dr. John B. Erich, Rochester, Minnesota, and Dr. Sidney N. Eichenholtz, Yonkers, New York. An optional tour of the National Leprosarium, U. S. Public Health Service Hospital at Carville, La., will be conducted on November 4. General Chairman for the meetings is Dr. Elias N. Kaiser, Montgomery, Alabama.

SYMPOSIUM CHANGING CONCEPTS IN MEDICINE

Deborah Hospital announces the Second International Symposium on Changing Concepts in Medicine (Congenital Heart Disease) to be held at the Bellevue-Stratford Hotel in Philadelphia, on April 28, 29, 30, 1960.

The Symposium is being organized under the direction of a National Committee headed by Doctor Charles P. Bailey, Chairman of the Medical Board of Deborah Hospital. Eminent clinician-educators will lead panel discussions encompassing all aspects of congenital heart conditions and the selection of patients for surgical corrections.

Inquiries about the Symposium should be addressed to: Dr. Charles P. Bailey, Deborah National Office, 901 Walnut Street, Philadelphia 7, Pennsylvania.

CARIBBEAN CRUISE

The University of Tennessee College of Medicine will give physicians an opportunity for postgraduate education while sailing the Caribbean for eight days next January.

Wallace Mayton, director of the Postgraduate Department at UT, said the eight-day cruise will leave from New Orleans January 15 and visit Nassau in the Bahamas; Havana, Cuba; and Montego Bay, Jamaica, spending four days in these ports of call.

He said the cruise is made possible through the cooperation of the Tennessee Academy of General Practice, the State's Association of General Practitioners of Medicine.

The physicians will sail aboard the TS Ariadne, a vessel owned by the Hamburg American Line in Hamburg, West Germany. The Allen Transfer Service in New York City made arrangements for the voyage. The physicians will spend about five days at sea and each morning from 8:30 until 12:30 seminar sessions will be held. The sessions will include lectures on a variety of medical topics, lantern slide projection, and motion pictures on surgical procedures of interest to general practitioners. The physicians may be accompanied by their wives.

Twenty hours of postgraduate credit is offered by the American Academy of General Practice to those who make the voyage. The cost of the trip will be approximately $350.

The faculty will include:

Dr. M. K. Callison, dean of the College of Medicine; Dr. Harwell Wilson, chief of the Division of Surgery; Dr. R. H. Kampeier, professor of medicine, Vanderbilt University; Dr. I. Frank Tullis, chief of the Division of Medicine; Dr. L. W. Diggs, head of the Department of Medical Laboratories; Dr. James G. Hughes, professor of Pediatrics.

Further information may be obtained from the Postgraduate Department of the University at 62 South Dunlap.

STUDY SHOWS EXTENT OF VENOM DEATHS

Nearly as many Americans die from bee stings as from rattlesnake bites, a new study has shown.

In addition, they die from the bites and stings of wasps, hornets, yellow jackets, ants, cottonmouth moccasins, coral snakes, scorpions, spiders, and sting rays.

Dr. Henry M. Parrish, University of Vermont College of Medicine, Burlington, studied the death certificates of all persons in the United States who died from bites and stings of venomous animals and insects during the five-year period 1950 through 1954. The study is reported in the August issue of Archives of Internal Medicine, published by the American Medical Association.

There were 215 deaths, with an average of 43 a year, and an average death rate of 0.28 per 1 million population per year.

The Hymenoptera—bees, wasps, hornets, yellow jackets, and ants—killed 86 persons (40 per cent), while poisonous snakes—rattlers, cottonmouth moccasins, coral and unidentified—

killed 39 persons (18 per cent). Rattlesnakes killed 55 persons, while bees killed 52.

More children died of snake bite than from bee stings, apparently because bee sting deaths are actually severe allergic shock reactions and the person must previously have been sensitized to the insect venom. In addition, children get a proportionately larger amount of snake venom according to body weight than do adults, Dr. Parrish said.

Other animals and insects causing death were scorpions (5), spiders (39), Portugese man-of-war (1), and sting ray (1). Twelve other deaths were caused by unknown animals and insects.

Centipedes, millipedes, Gila monsters, poisonous fishes, copperhead moccasins, and tarantulas were not reported to produce any deaths. This does not mean that they are not poisonous, but it does indicate that they are not a major source of human deaths in the United States, Dr. Parrish noted.

He believes that previous estimates of the incidence of bites and stings by venomous animal are too low. Very likely, he said, deaths in the United States from venomous animals are attributed to other causes on death certificates. This is especially true of Hymenoptera-caused deaths, since these allergic shock reactions are easily misdiagnosed, he said.

FEVER NEEDS FOOD, WATER, ACCORDING TO DOCTORS

A fever must be watered and fed, not starved, two Chicago physicians reported.

Fever leads to dehydration and the breakdown of body tissues. At high temperatures, the body cells work faster and break down more rapidly. To replace them, the body needs food and water.

Drs. Rachmiel Levine and Sidney Cohen of the Medical Research Institute of Michael Reese Hospital gave their advice in an interview reported in the forthcoming (September) Today's Health, published by the American Medical Association.

When a fever reaches 103 or more, it becomes dangerous, they said. It leads to the malfunctioning of the central nervous system and heart because every degree of fever makes the heart beat faster, and over a certain beat rate, fever becomes injurious to the heart.

The seriousness of a fever depends on age, persistence, and variability, the doctors said. A child's body temperature will react more drastically with a fever than an older person's. The older a person grows the less drastic and slower are his reactions to fever-causing agents.

Whether a fever persists day after day whether it has peaks at certain times a day influence its seriousness.

Fever, according to the doctors, is a symptom or indicator; it is not a disease. It may be associated with infections, cirrhosis of the liver, gout, neoplastic diseases, vascular accidents, pregnancy, food intake and excessive fatigue. It may be caused by hypersensitivity to drugs.

There is no general remedy for fever, although aspirin is often given, they said. Fever induced by infection is reduced by eliminating the infectious germs.

Fever should be considered as an indicator that something may be wrong and should be thoroughly investigated, they said. The best way is to check with a doctor.

However, a person should not become obsessed about slight elevations in body temperatures, once examination has shown no cause for the slight rise in temperature. Some persons just normally have a higher than "normal" temperature all the time.

CHOLESTEROL ROLE IN HEART DISEASE STILL UNKNOWN

The significance of lowered blood cholesterol levels in the prevention and treatment of heart disease is not definitely known, according to the American Medical Association's Council on Foods and Nutrition.

Methods of manipulating the blood levels of cholesterol have become of utmost interest, and because their importance is unknown confusion has resulted, the council said in a report in the Aug. 29 A.M.A. Journal.

In an attempt to keep physicians informed of current knowledge about cholesterol, the council presented the views of five foremost researchers in the field.

"Of all the chemical compounds that are measured in clinical laboratories, there is none about which more has been written and about which less is understood than cholesterol," according to Dr. Lawrence W. Kinsell, Institute for Metabolic Research, Highland-Alameda County Hospital, Oakland, Calif.

It is well established, he said, that, statistically, elevated levels of cholesterol are found in association with atherosclerosis (one form of hardening of the arteries). It seems reasonable, therefore, to believe that measures directed toward lowering the levels may work in a desirable way.

However, since cholesterol is a normal essential part of the human body, "it is obvious that attempts to 'get rid of' this compound would be both unphysiological and impossible," Dr. Kinsell said.

The objective, then, must be to achieve normal cholesterol metabolism with consequently normal blood levels in the hope that such a program will prevent abnormal deposits of cholesterol in the blood vessels, he said.

Among the methods mentioned by the physicians are the use of diet, such drugs as nicotinic acid, estrogens, and increased exercise.

BOOK REVIEWS

Medical Radiation Biology; by Friedrich Ellinger, M.D. Springfield, Illinois, Charles C Thomas, 1957, pp. 945. Price $20.00.

The author, who has done work in this field for many years and who is presently chief radiation biologist and head of the pharmacology division at the Naval Medical Research Institute, has written a book of timely interest and of considerable contemporary importance. It is his intent to indicate "the rationale on which the role of radiation as a health hazard and as a therapeutic agent is based".

The initial portion of the book is of an introductory nature. Radiations are discussed in a general way, along with their mode of action, as well as some of their pertinent chemical and cellular effects. Also included in this section is a discussion of radiosensitivity. The second and major portion of the book is devoted to the effects of radiant energy upon the various organs and organ systems of the body and various disease processes, including malignant neoplasms. Material pertaining to radiation as a health hazard is also presented. The last sections of the book are devoted to the biologic effects of ultra-violet, infra-red and visible light. There is a very complete, well organized table of contents, but no index. Forty-six hundred references are listed.

ROBYN HARDY, M.D.

Chemosurgery in Cancer, Gangrene and Infections; by Frederick E. Mohs, M. D. Charles C Thomas, Springfield, Ill., 1956, pp 305, Price $13.50

The author has devoted many years in the clinical evaluation of the chemosurgical treatment of cancer. He has accumulated a considerable amount of information on this subject with photographs and has expanded it to include gangrene and infections. The book presents a practical work description of the technics employed and shows this conservative procedure to be fairly reliable. He has thoroughly documented statistics on the five year end results in a goodly series of cases. This book is a must for anyone interested in treating advanced visible cancer.

CHARLES C. ABBOTT, M. D.

Ear, Nose and Throat Dysfunctions Due to Deficiencies and Imbalances; by Sam E. Roberts, Springfield, Illinois, Charles C Thomas, 1957, pp. 323, price $8.50.

This text deals with the author's own observations and philosophies concerning various diseases rather than with established facts. Much of its content is highly speculative if not fanciful. The author places much emphasis on therapy with a balanced diet and sex hormones for various disorders such as vascular headaches, Meniere's disease, acoustic nerve dysfunction.

The most useful function of this book to the otolaryngologist is to remind him that the patient's complaints may originate outside the ear, nose and throat system.

The author's expressive style is quite pleasant.

L. J. RUTLEDGE, M. D.

Atlas of Clinical Endocrinology; by Lisser-Escamill. St. Louis, C. V. Mosby, 1957, pp 476, Price $18.75

This excellent atlas will appeal to all physicians, for endocrinologic problems appear in all aspects of medical practice. In addition to numerous first-rate pictures, the book includes an abbreviated text with all necessary information for diagnosis and therapy. There is a brief but well selected bibliography.

V. J. DERBES, M. D.

A Textbook of Histology; by Alexander A. Maximow and William Bloom. (7th edition) Philadelphia, Pa. W. B. Saunders Co., 1957. pp. 628, 631 illus., Price $11.00.

Alexander Maximow, who died in 1928, had not completed his manuscript of the original edition of this long-favored textbook. William Bloom brought the manuscript to completion and since has carried the book through revision after revision. Seven editions and widespread use of this text through a quarter-century attest to its quality. The text is so generally familiar that a full review is unnecessary. The present edition maintains the standard that had been set from the first: the text matter is authoritative and clearly written; the illustrations are well chosen and excellent technically. Again Dr. Bloom has called upon specialists to contribute to the revision. It is noteworthy that additional emphasis has been placed upon electron microscopy, histochemistry and other phases of histology that are rapidly expanding.

HAROLD CUMMINS, PH.D.

PUBLICATIONS RECEIVED

The C. V. Mosby Co., St. Louis; Synopsis of Ophthalmology, by William H. Havener, M. D.; The Care of Minor Hand Injuries, by Adrian E. Flatt, M. D.; Anesthesia for Infants and Children, by Robert M. Smith, M. D.; Synopsis of Ear, Nose, and Throat Diseases, by Robert E. Ryan, M. D., William C. Thornell, M. D., and Hans von Leden, M. D.

Prentice-Hall, Inc., Englewood Cliffs, N. J.: What Next, Doctor Peck?, by Joseph H. Peck, M. D.

Charles C Thomas, Publisher, Springfield, Ill.: Nutritional Diagnosis, by Grace A. Goldsmith, M. D.



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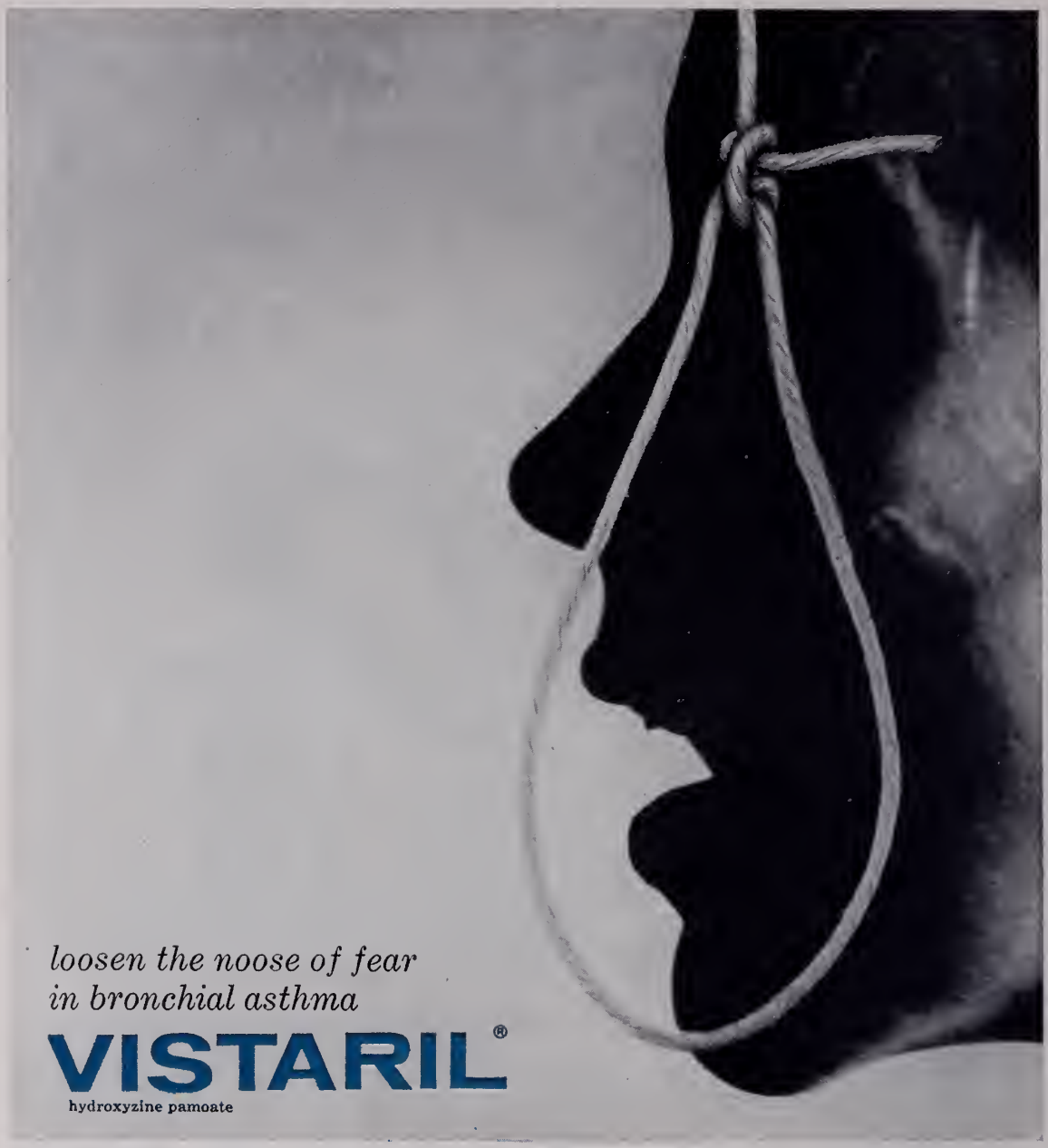
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SUPPLIED: 16 and 8 oz. bottles. Each ml. of 'Arthropan' contains 174 mg. of Choline Salicylate. Each teaspoonful (5 ml.) contains 870 mg.

CITED REFERENCES: 1. Clark, G. M.: Personal Communication, 1958. 2. Feldman, H. A.: Personal Communication, 1958. 3. Scully, F. J.: Treatment of Rheumatic Disorders with Choline Salicylate (to be submitted for publication). 4. Friedland, C. K.: Personal Communication, 1958. 5. Complete data available on request to the Medical Director.

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1. Innerfield, I.: Clinical report cited with permission
2. Clinical report cited with permission

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References: 1. Finkelstein, M., et al.: J. Pharmacol. & Exper. Therap. 125:330 (April) 1959. 2. McHardy, G., et al.: Postgrad. Med., in press. 3. Winkelstein, A.: Amer. J. Gastroenterol., in press. 4. Finkelstein, M., et al.: Presented at Fall Meeting, Amer. Soc. Pharmacol. & Exper. Therap., 1958. 5. Leming, B.: Clin. Med. 6:423 (March) 1959.

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DELA

The results of administering Delalutin before the 12th week of gestation to 82 women with habitual abortion were reported recently by Reifenstein[1] in a compilation of data supplied by 45 investigators. Every patient had experienced at least three consecutive abortions immediately preceding the treated pregnancy. More than 68% of these women were delivered successfully and uneventfully following Delalutin therapy.

Boschann,[2] in a study of pregnancies with threatened abortion, found that:

37% of 73 pregnancies were carried to term without progestational therapy

64% of 42 pregnancies were salvaged by progesterone

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Eichner,[3] found that in Delalutin-treated women, fetal salvage of infants below term weight (1000 to 2000 gm.) was significa improved. 108 (76%) of 142 babies of birth weight survived without mothers rec ing progestational therapy, while 16 (10 of 16 babies of this birth weight survived mothers receiving Delalutin therapy. A c parison study was made of a grou repeated aborters treated with Delal and a group with a similar history tre with bed rest and sedation.[4] Pregn salvage with Delalutin was twice that o control group. Delalutin was found t "highly active", well-tolerated and l acting.

According to Tyler and Olson,[5] "T qualities of prolonged action and rel freedom from local reactions m [Delalutin] a generally more desir therapeutic agent for intramuscular than progesterone . . . ."

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Scott Knu
Norwich,

References: 1. Reifenstein, E. C. Jr.: *Annals N. Y. Acad. Sc.* 71:762 (July 30) 1958. 2. Boschann, H-W.: *ibid.*, p. 727. 3. Eichner, E.: *ibid.*, p. 787. 4. Hodgkinson, C. P.; Igna, E. J., and Bukeavich, A. P.: *Am. J. Obst. & Gynec.* 76:279, 1958. 5. Tyler, E. T., and Olson, H. J.: *J.A.M.A.* 169:1843, 1959.

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DELALUTIN is also potent and safe therapy for: threatened abortion; postpartum afterpains; amenorrhea, primary and secondary; dysfunctional uterine bleeding not associated with genital malignancy; infertility with inadequate corpus luteum function; production of secretory endometrium and desquamation during estrogen therapy; premenstrual tension; dysmenorrhea; cyclomastopathy, mastodynia, adenosis and chronic cystic mastitis.

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Miltown®+conjugated estrogens (equine)

Supplied in two potencies for dosage flexibility:

MILPREM-400, each coated pink tablet contains 400 mg. Miltown (meprobamate) and 0.4 mg. conjugated estrogens (equine).

MILPREM-200, each coated old-rose tablet contains 200 mg. Miltown and 0.4 mg. conjugated estrogens (equine).

Both potencies in bottles of 60.

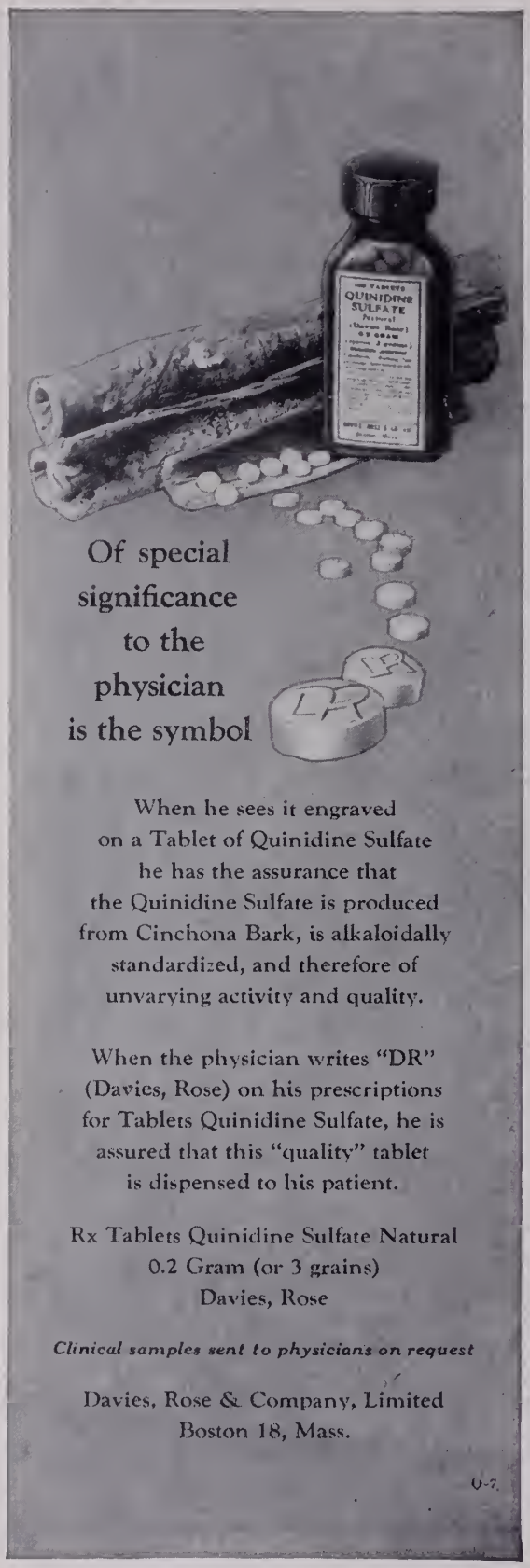
Literature and samples on request.

In minutes, Milprem starts to ease anxiety and depression. It relieves insomnia, relaxes tense muscles; alleviates low back pain and tension headache. As the patient continues on Milprem, the replacement of estrogens checks hot flushes and other physical symptoms.

Easy dosage schedule: One Milprem tablet t.i.d. in 21-day courses with one-week rest periods; during the rest periods, Miltown alone can sustain the patient.

WALLACE LABORATORIES, *New Brunswick, N. J.*

CMP-9224-69



Of special significance to the physician is the symbol

When he sees it engraved on a Tablet of Quinidine Sulfate he has the assurance that the Quinidine Sulfate is produced from Cinchona Bark, is alkaloidally standardized, and therefore of unvarying activity and quality.

When the physician writes "DR" (Davies, Rose) on his prescriptions for Tablets Quinidine Sulfate, he is assured that this "quality" tablet is dispensed to his patient.

Rx Tablets Quinidine Sulfate Natural
0.2 Gram (or 3 grains)
Davies, Rose

Clinical samples sent to physicians on request

Davies, Rose & Company, Limited
Boston 18, Mass.

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THE EARLE JOHNSON SANATORIUM

PRESTON RAY STODARD, M. D.
Medical Director

Specialized treatments in mental disorders and alcoholic and drug addictions.

A limited number of custodial cases accepted.

Fireproof Buildings
Lovely Gardens and Grounds
Healthful Location — All Private Rooms
Excellent Staff

"The Hospital Atmosphere is Avoided"

WRITE P. O. DRAWER 106
or
Telephone 3-3369
MERIDIAN, MISSISSIPPI



provides therapeutic levels . . . for 24 hours . . .
with low incidence of sensitivity reactions . . .
WHENEVER SULFAS ARE INDICATED

KYNEX®

Sulfamethoxypyridazine Lederle
0.5 Gm. TABLETS/NEW ACETYL PEDIATRIC SUSPENSION
LEDERLE LABORATORIES, a Division of
AMERICAN CYANAMID COMPANY, Pearl River, New York



908129

OFFERS HIGHER BLOOD LEVELS-FASTER-THAN ANY OTHER SALT OF ORAL PENICILLIN: COMPOCILLIN®-VK

Potassium Penicillin V

© FILMTAB — FILM-SEALED TABLETS, ABBOTT. U.S. PAT. NO. 2881085

Supplied: Compocillin-VK Filmtabs, 125 mg. (200,000 units), botttes of 50 and 100; 250 mg. (400,000 units), bottles of 25 and 100. Compocillin-VK Granules for Orat Solution come in 40-cc. and 80-cc. botttes. When reconstituted, each 5-cc. teaspoonfut represents 125 mg. (200,000 units) of potassium penicillin V.

ABBOTT

in tiny, easy-to-swallow Filmtabs® in tasty, cherry-flavored Oral Solution



Congratulations, chef . . . it's just right!

"Good for you!"

SIZZLING AND PERFECT! Now relax with your guests. Pour yourself a rewarding glass of beer. So good and satisfying . . . and it really picks you up, too. Beer goes so graciously, so naturally with a barbecue. And it's such a nice compliment to your good taste.

Beer Belongs—to the fun of living!

United States Brewers Foundation
CHARTERED 1862



Beer's rich in wonderful, healthful things. Nature's own choice barley malt, hops, minerals, and the purest water. Good wholesome beer or ale perks you up—won't let you down.



waterloo for an ulcer...

Napoleon exhibited ulcer symptoms through most of his adult life, yet he scorned medication for his everlasting "spasms of nervous origin." He ignored his infirmities with violent naïveté despite an intense interest in medical science. Thus, the classic hand-in-coat pose may have been the result of his paroxysms of gastric pain that sliced "like the stab of a penknife."

When your patient is besieged with an ulcer, Robins provides you with an armamentarium sufficient to repel it.

frontal assault — If your tactics dictate Local action, try ROBALATE,® which is dihydroxy aluminum aminoacetate (0.5 Gm. per tablet or cc.), an antacid of definitely superior efficacy.

encirclement — If you prefer to approach the ulcer Systemically, prescribe DONNATAL® the anticholinergic-antispasmodic-sedative with the time-tested *natural* belladonna alkaloids and phenobarbital, a veteran campaigner without peer. FORMULA: hyoscyamine sulfate, 0.1037 mg.; atropine sulfate, 0.0194 mg.; hyoscine hydrobromide, 0.0065 mg.; and phenobarbital (¼ gr.), 16.2 mg.

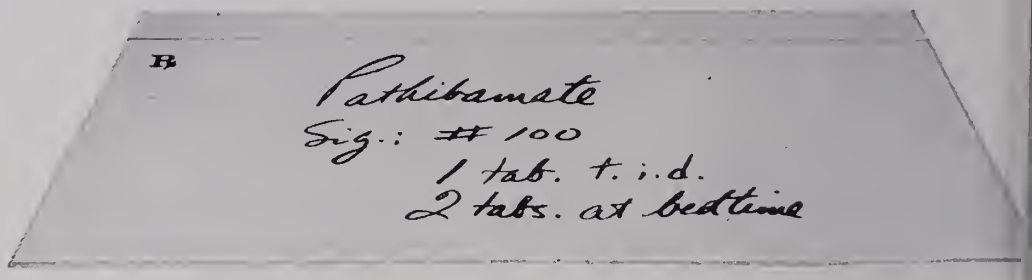
multi-pronged attack — If you relish the strategy of combining antacid and antispasmodic-anticholinergic effects, use DONNALATE.® It combines one-half of a DONNATAL tablet with one ROBALATE, ideal allies for comprehensive ulcer therapy.

Victory will be yours.

A. H. ROBINS CO., INC. • RICHMOND, VA.

DONNALATE® Robins

for the control of tension and G.I. trauma
many of you have been writing this
prescription in increasing numbers for
nearly two years . . .

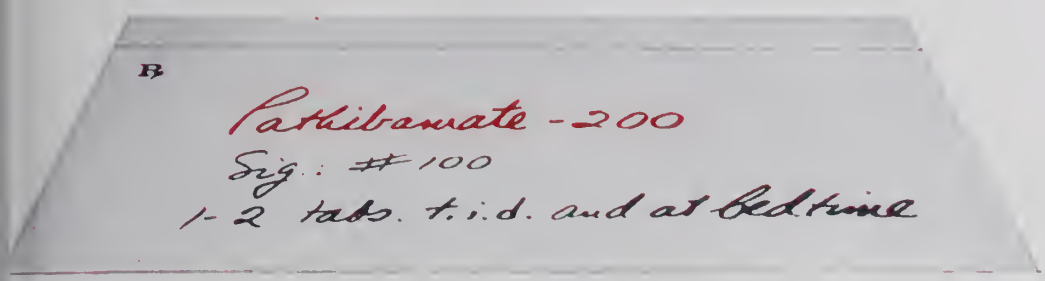


predictable results
in the control of
tension and G.I. trauma

PATHIB

Lederle LEDERLE LABORATORIES, A Divis

NEW! for greater flexibility in the control of tension and G.I. trauma . . . now you can write:



n the management of such gastrointestinal lysfunctions as duodenal or gastric ulcer, ntestinal colic, spastic and irritable colon, eitis, esophageal spasm, gastric hyper-notility and anxiety neurosis with G. I. ymptoms, nearly two years' experience has onfirmed the clinical advantages derived rom the combination of the two agents in ATHIBAMATE.

New PATHIBAMATE-200 Tablets combine Meprobamate at one-half strength, with PATHILON at full established potency.

With PATHIBAMATE-200, further individualization of treatment is facilitated in respect to both the degree of tension and associated G.I. sequelae, as well as the response of different patients to the component drugs.

Supplied: PATHIBAMATE-400 — Each tablet (yellow, ½ scored) contains Meprobamate, 400 mg.; PATHILON Tridihexethyl Chloride, 25 mg.
PATHIBAMATE-200 — Each tablet (white, coated) contains Meprobamate, 200 mg.; PATHILON Tridihexethyl Chloride, 25 mg.

Administration and dosage: PATHIBAMATE-400 — 1 tablet three times a day and 2 tablets at bedtime.
PATHIBAMATE-200 — 1-2 tablets three times a day and at bedtime. Adjust dosage to patient response.

AMATE® 400 200

Meprobamate with PATHILON® Tridihexethyl Chloride* LEDERLE

*PATHILON is now offered as tridihexethyl chloride instead of the iodide, since the latter may interfere with the results of certain thyroid function tests.

ERICAN CYANAMID COMPANY, Pearl River, New York


ATARAX
PASSPORT
TO
TRANQUILITY
BACKED BY
A WORLD OF EXPERIENCE



ATARAX®

(brand of hydroxyzine)

PASSPORT TO TRANQUILITY



New York 17, N. Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being



helping the hypertensive to help himself...

THEOMINAL® R.S.

(Theominal with Rauwolfia serpentina)

- **Gradual but sustained reduction of blood pressure**
- **Mild bradycardic action**
- **Alleviation of congestive headache, vertigo, dyspnea**
- **Relief from anxiety, excitability, insomnia**
- **Sense of well-being**

Theobromine	320 mg.
Luminal®	10 mg.
Rauwolfia serpentina alkaloids (alseroxylon)	1.5 mg.*

DOSAGE: The usual dose of Theominal R.S. is 1 tablet two or three times daily. When improvement has been maintained for a time, the dose may be reduced or medication suspended occasionally until resumption is indicated.

SUPPLIED: Bottles of 100 and 500 tablets.

* = 0.3 mg. reserpine in activity



Winthrop LABORATORIES • NEW YORK 18, N. Y.

Theominal and Luminal (brand of phenobarbital), trademarks reg. U.S. Pat. Off.



. . . and one to grow on

A tiny tablet of REDISOL to stimulate the appetite — to help in the intake of food for growth.

REDISOL is crystalline vitamin B_{12}, an essential vitamin for growth and the fundamental metabolic processes.

Ideal for the growing child, the REDISOL tablet dissolves instantly on contact in the mouth, on food or in liquids.

Packaged in bottles hermetically sealed to keep the moisture out and to retain vitamin potency in 25 and 50 mcg. strengths, bottles of 36 and 100 — in 100 mcg. strength, bottles of 36, and in 250 mcg. strength, vials of 12.

Also available as a pleasant-tasting cherry-flavored elixir (5 mcg. per 5-cc. teaspoonful) and as REDISOL injectable, cyanocobalamin injection USP (30 and 100 mcg. per cc., 10-cc. vials and 1000 mcg. per cc. in 1, 5 and 10-cc. vials).

REDISOL®

cyanocobalamin, Crystalline Vitamin B_{12}

MSD

MERCK SHARP & DOHME
DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

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NIAMID*

the mood brightener

Lifts the burden of depression... opens the way for a sunnier outlook

New areas of therapy

NIAMID is clinically effective in a broad range of depressive states, including: involutional melancholia, senile depression, postpartum depression, reactive depression, the depressive stage of manic-depressive disease, and schizophrenic depressive reaction.

A wide variety of psychoneurotic depressions seen in general practice also respond effectively to NIAMID. Depression associated with the menopause and with postoperative states, and depression accompanying chronic or incurable diseases such as gastrointestinal and cardiovascular disorders, arthritis, and inoperable cancer, can now be treated successfully with NIAMID.

NIAMID is also strikingly effective for many complaints, mild or severe, vague or well defined, which due to masked depression rather than to organic disease. This masked depression may take the form of guilt feelings, crying spells or sadness, difficulty in concentration, loss of energy or drive, insomnia, emotional fatigue, feelings of hopelessness or helplessness, loss of interest in normal activity, listlessness, apprehension or agitation, and loss of appetite and weight.

While tranquilizers have had some measure of effectiveness in many of these areas, NIAMID now gives the practicing physician a new, safe drug for the specific treatment of depression without the risk of increasing the depressive symptoms.

New safety

NIAMID, in extensive clinical trials, has not been associated with the hepatotoxic reactions observed with the first of the monoamine oxidase inhibitors. These reactions have not been seen with NIAMID.

Acute and chronic toxicity studies show this drug distinctive freedom from toxicity. Moreover, during the extensive clinical trials of NIAMID by a large number of investigators, not only has no liver damage been reported, but only in a very few isolated instances have hypotensive effects been seen.

The absence of toxicity may be the result of the unique carboxamide group in the NIAMID molecule. This structure may explain why NIAMID is excreted largely unchanged in the urine, with only insignificant quantities of potentially free hydrazine being formed. Previously, where a monoamine oxidase inhibitor had been associated with hepatic toxicity, there was some evidence that substantial quantities of free hydrazine were formed in the body.

Background of NIAMID

A major advance in the treatment of mental depression came with a newer understanding of the influence of brain serotonin and norepinephrine on the mood. Levels of both these neuro-hormones are decreased in animals under experimental conditions analogous to depression; relief of these mood depressions is seen with a rise in the levels of both serotonin and norepinephrine.

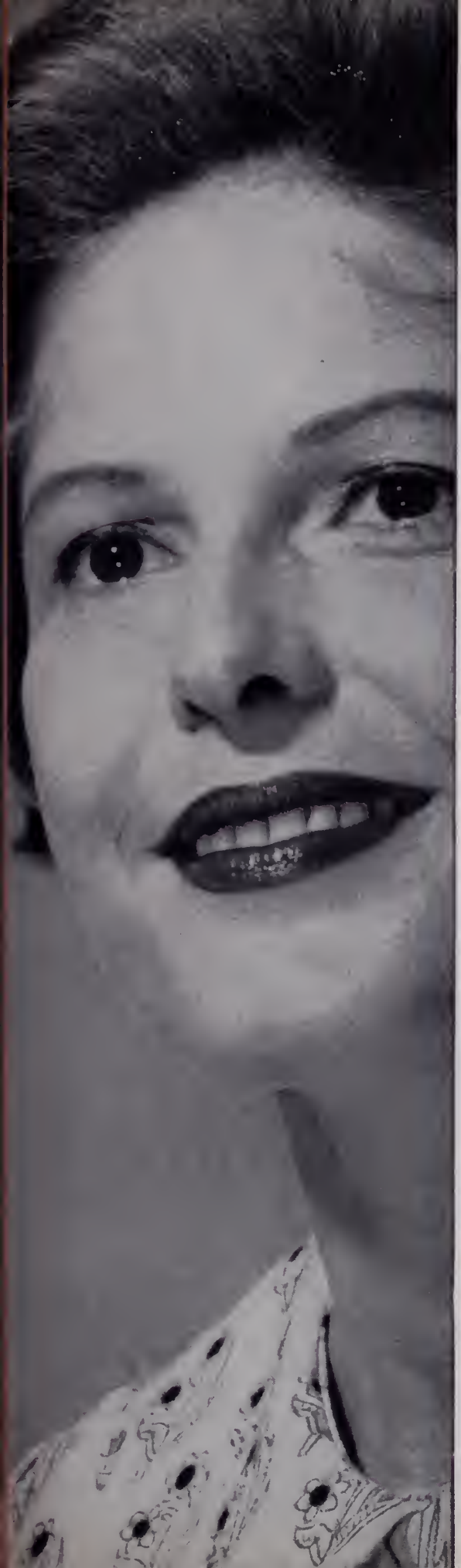
A second advance came with the development of monoamine oxidase inhibitors, substances which raise the cerebral level of both serotonin and norepinephrine. The first of the amine oxidase inhibitors raised the cerebral level of serotonin, but did not appear to raise that of norepinephrine level proportionately.

Pfizer *Science for the world's well-being* ™

PFIZER LABORATORIES

Division, Chas. Pfizer & Co., Inc., Brooklyn 6, N. Y.

*TRADEMARK FOR BRAND OF NIALAMIDE



Attention at Pfizer Research was then directed to a new drug that would overcome this disadvantage. NIAMID significantly raises the cerebral level of *both* serotonin and norepinephrine under experimental conditions.

The dramatic discovery of NIAMID now makes available an extremely effective, safe antidepressant for the successful treatment of a full range of depressive states.

Precautions

Side effects are most often minor and mild manifestations of central nervous system stimulation, modifiable by reduction in dosage; these may take the form of restlessness, insomnia, headache, weakness, vertigo, dry mouth, and perspiration. Care should be taken when NIAMID is used with chlorothiazide compounds, since hypotensive effects have been noted in some patients receiving combined therapy—even though hypotension has rarely been noted with NIAMID alone. There has been no evidence of liver damage in patients on NIAMID; however, in patients who have any history of liver disease, the possibility of hepatic reactions should be kept in mind.

Dosage and Administration

Start with 75 mg. daily in single or divided doses. After a week or more, revise the daily dosage upward or downward, depending upon the response and tolerance, in steps of one or one-half 25 mg. tablet. Once satisfactory response has been attained, the dosage of NIAMID may be reduced gradually to the maintenance level.

The therapeutic action of NIAMID is gradual, not immediate. Many patients respond within a few days, others satisfactorily in 7 to 14 days. Some patients, particularly chronically depressed or regressed psychotics, may need substantially higher dosages (as much as 200 mg. daily has been used) and prolonged administration before responses are achieved.

Supply

NIAMID is available in: 25 mg., pink, scored tablets in bottles of 100; and 100 mg., orange, scored tablets in bottles of 100.

References

Complete bibliography and Professional Information Booklet are available on request.

*TRADEMARK FOR BRAND OF NIALAMIDE

NIAMID
the mood brightener

be prepared...

fast, effective and long-lasting relief from:

sunburn
poison ivy
insect bites
minor cuts
and abrasions



The water-soluble, nonstaining base melts on contact with the tissue, releasing the Xylocaine for immediate anesthetic action. It does not interfere with the healing processes.

Astra Pharmaceutical Products, Inc.,
Worcester 6, Mass., U.S.A.

XYLOCAINE®
(brand of lidocaine*)
OINTMENT 2.5% & 5%

*U. S. PAT. NO. 2,441,498 MADE IN U. S. A.

SEE PDR



PHENAPHEN® PLUS

Phenaphen Plus is the physician-requested combination of **Phenaphen**, plus an antihistaminic and a nasal decongestant.

Available on prescription only.

Robins

each coated tablet contains:	**Phenaphen**
Phenacetin (3 gr.)	194.0 mg.
Acetylsalicylic Acid (2½ gr.)	162.0 mg.
Phenobarbital (¼ gr.)	16.2 mg.
Hyoscyamine Sulfate	0.031 mg.
plus	
Prophenpyridamine Maleate	12.5 mg.
Phenylephrine Hydrochloride	10.0 mg.



Prompt 4 way check of DIARRHEA

POMALIN TRADEMARK Liquid

New **RASPBERRY FLAVOR**

and pink color make POMALIN pleasant to take and appealing to both children and adults.

- ✓ Curbs excessive peristalsis
- ✓ Adsorbs toxins and gases
- ✓ Soothes inflamed mucosa
- ✓ Provides intestinal antisepsis

FORMULA:

Each 15 cc. (tablespoon) contains:

Sulfoguanidine	2 Gm.
Pectin	225 mg.
Kaolin	3 Gm.
Opium tincture (equivalent to 2 cc. paregoric)	0.08 cc.

SUPPLIED:

Bottles of 16 fl. oz.
Exempt Narcotic.
Available on Prescription Only.

DOSAGE:

ADULTS: Initially 1 or 2 tablespoons from four to six times daily, or 1 or 2 teaspoons after each loose bowel movement; reduce dosage as diarrhea subsides.

CHILDREN: ½ teaspoon (=2.5 cc.) per 15 lb. of body weight every four hours day and night until stools are reduced to five daily, then every eight hours for three days.

Winthrop LABORATORIES
New York 18, N. Y.

For topical infections, choose a 'B. W. & Co.'® 'SPORIN'...



Each gram contains:
'Aerosporin'® brand Polymyxin B Sulfate 5,000 Units
Zinc Bacitracin ..... 400 Units
Neomycin Sulfate ..... 5 mg.
Hydrocortisone ..... (1%) 10 mg.
in a special petrolatum base.



Each gram contains:
'Aerosporin'® brand Polymyxin B Sulfate 5,000 Units
Neomycin Sulfate ..... 5 mg.
Zinc Bacitracin ..... 400 Units
in a special petrolatum base.



Each gram contains:
'Aerosporin'® brand
Polymyxin B Sulfate ..... 10,000 Units
Zinc Bacitracin ..... 500 Units
in a special petrolatum base.

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.



the disease of many masks

Doctor, do you recognize this patient? She complains of flatulence, constipation with alternating periods of diarrhea, and colicky pains in the lower right quadrant. At other times she is troubled by anorexia, lassitude, dull headache, muscle pains and backache. Or she may have only one or two of these symptoms.

In these puzzling cases, serious consideration should be given to intestinal amebiasis—the disease of many masks. Clinicians say it is "one of the most widespread and serious protozoan diseases of man," yet "there is no parasite more often misdiagnosed than is *E. histolytica*." Conservative estimates place the incidence at 10% of the United States population as a whole, and 16% in southern states.

Now Glarubin, a relatively non-toxic amebicide, simplifies the treatment of suspected cases of intestinal amebiasis. Glarubin, a crystalline glycoside from the fruit of *Simarouba glauca*, is a specific amebicidal agent with minimal side effects. It contains no arsenic, bismuth or iodine.

Glarubin is administered orally in tablet form and does not require strict medical supervision or hospitalization. Extensive clinical trials prove it highly effective in intestinal amebiasis, and virtually free of toxicity.

Supplied in bottles of 40 tablets, each tablet containing 50 mg. of glaucarubin. Write for descriptive literature, bibliography, and dosage schedules.

new Glarubin

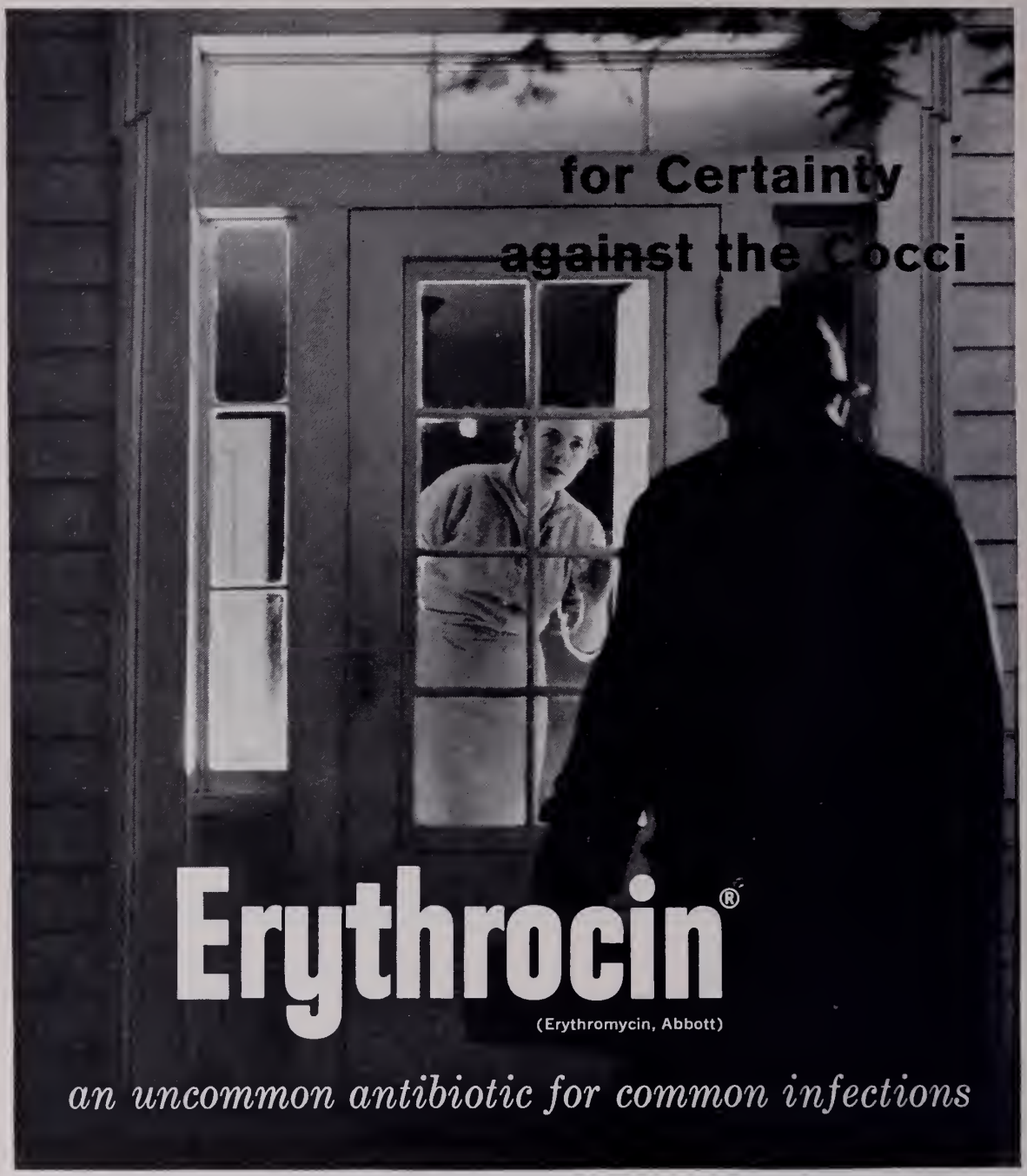
TABLETS

specific for intestinal amebiasis

THE S. E. MASSENGILL COMPANY

BRISTOL, TENNESSEE

NEW YORK • KANSAS CITY • SAN FRANCISCO



Provides fast, high blood and tissue concentrations—plus an unparalleled safety record. Erythrocin is available in easy-to-swallow Filmtabs® (100 and 250 mg.); in tasty, citrus-flavored Oral Suspension (200 mg. per 5-cc. teaspoonful); and for intravenous and intramuscular use.

ABBOTT

®FILMTABS—FILM-SEALED TABLETS. ABBOTT; U.S. PAT. NO. 2,881,085

909132



August isn't the only hay fever month*
... and there is no seasonal limit
on the antiallergic action of
Chlor-Trimeton® Repetabs® 8 or 12 mg.

safest, best tolerated, for both seasonal and nonseasonal allergies
the most prescribed antihistamine in the United States

Bottles of 100 and 1000.
SCHERING CORPORATION • BLOOMFIELD, NEW JERSEY

**in every month of the year there are*
allergenic pollens thriving in some part of the United States

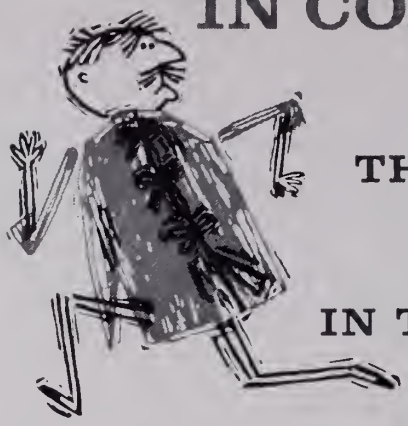
SYMBOL OF THE ONE-DOSE CONVENIENCE YOU WANT FOR YOUR PATIENT

• PROMPT REPETAB RELIEF • LASTS ALL DAY OR NIGHT •

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IN CONSTIPATION



ELIMINATE THE ENEMA AT HOME OR IN THE HOSPITAL



"The effectiveness of the senna preparation ['Senokot'] in reducing the need for enemas...is clearly apparent..."

Kasdon, S. C., Morentin, B. O.: J. Internat. Coll. Surgeons 31:455 (Apr.) 1959.

...time and time again, gentle, natural acting 'Senokot' is cited in clinical reports as the therapy of choice in all patients with acute or chronic constipation.

'Senokot' acts uniquely, through neuro-stimulation of Auerbach's plexus in the colon, duplicating the process of normal defecation.

When therapy with 'Senokot' is substituted for enemas the difference is safe, natural physiologic correction of constipation, and increased patient comfort, as well as significant saving of time for your hospital's nursing staff.

THE EFFECTIVENESS AND SAFETY OF THE DOUBLY STANDARDIZED SENNA CONCENTRATE CONTINUE TO BE DOCUMENTED BY CLINICAL AND LABORATORY INVESTIGATIONS WHICH CONSTITUTE THE FASTEST GROWING BIBLIOGRAPHY*ON CONSTIPATION CORRECTION

*Available upon request to the Medical Director

natural bowel corrective **Senokot®** — Small and easy to swallow, in bottles of 100. TABLETS

natural bowel corrective **Senokot®** — Cocoa-flavored, in 8 and 4 ounce canisters. GRANULES

STANDARDIZED CONCENTRATE OF TOTAL ACTIVE PRINCIPLES OF CASSIA ACUTIFOLIA PODS, PURDUE FREDERICK

PF *The Purdue Frederick Company* DEDICATED TO PHYSICIAN AND PATIENT SINCE 1892
NEW YORK 14, N.Y. | TORONTO 1, ONTARIO

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"But, Doctor, I just can't swallow a lot of tablets"

"Little mother, just

ONE

BONADOXIN®

tablet stops morning sickness (you take it at bedtime)"



The formula tells why BONADOXIN quickly stops nausea and vomiting of pregnancy in 9 out of 10 cases.* Each tiny BONADOXIN tablet contains: Meclizine HCl (25 mg.) for antinauseant action / Pyridoxine HCl (50 mg.) for metabolic replacement

More than 60,000,000 tablets prescribed and taken. Toxicity low, tolerance excellent. In bottles of 25 and 100. Usual dose: one tablet at bedtime; severe cases may require another on arising. See PDR, p. 779.

BONADOXIN also effectively relieves nausea and vomiting associated with: anesthesia, radiation sickness, Meniere's syndrome, labyrinthitis, cerebral arteriosclerosis and motion sickness.

After Baby Comes

For infant colic, try antispasmodic BONADOXIN Drops... stop colic in 7 out of 8 cases.*

Each cc. contains:
Meclizine 8.33 mg. / Pyridoxine 16.67 mg.

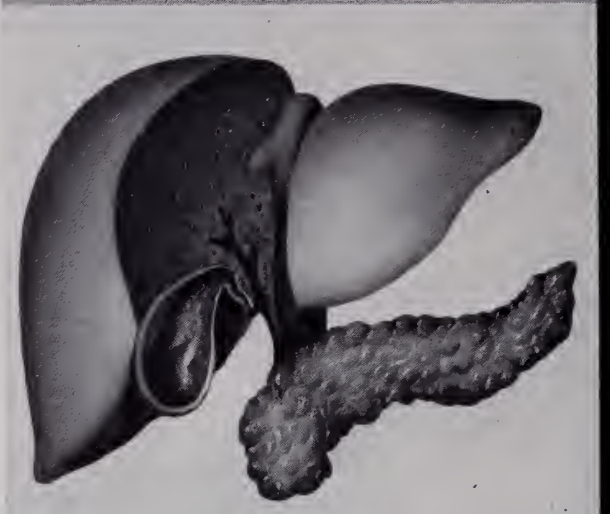
See PDR, p. 779.

*Bibliography available on request.

Roerig Rx *New York 17, New York • Division, Chas. Pfizer & Co., Inc. • Science for the World's Well-Being*

AN AMES CLINIQUICK®

CLINICAL BRIEFS FOR MODERN PRACTICE



why should the urine be tested for sugar in acute cholecystitis?

The high incidence of pancreatic disease associated with pathologic conditions of the biliary tract indicates their close relationship. The appearance of glycosuria in acute cholecystitis points to involvement of the pancreas in the inflammatory process.

Source: Refresher Article: Biliary Tract Diseases, M. Times *85*:1081, 1957.

to help forewarn of pancreatic involvement... and for reliable urine-sugar testing at any time

color-calibrated CLINITEST® BRAND Reagent Tablets

"...the most satisfactory method for home and office routine testing...."
GP *16*:121 (Aug.) 1957.

- STANDARDIZED READINGS... familiar blue-to-orange spectrum
- STANDARDIZED "PLUS" SYSTEM... covers entire clinical range
- STANDARDIZED SENSITIVITY... avoids insignificant trace reactions

consistently reliable results day after day... test after test

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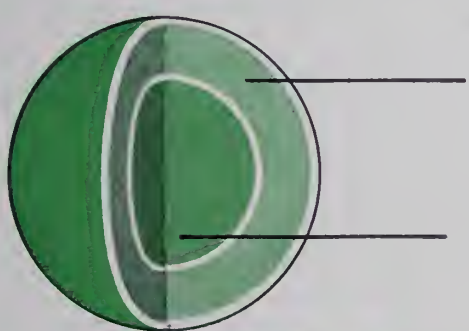
AMES

6515°



the complaint: "nervous indigestion"

the diagnosis: any one of several nonspecific gastrointestinal disorders requiring relief of symptoms by sedative-antispasmodic action with concomitant digestive enzyme therapy. **the prescription:** a new formulation, incorporating in a single tablet the actions of Donnatal and Entozyme. **the dosage:** two tablets three times a day, or as indicated.



the formula: *in the gastric-soluble outer layer:*

Hyoscyamine sulfate	0.0518 mg.
Atropine sulfate	0.0097 mg.
Hyoscine hydrobromide	0.0033 mg.
Phenobarbital (1/8 gr.)	8.1 mg.
Pepsin, N.F.	150 mg.

in the enteric-coated core:

Pancreatin, N.F.	300 mg.
Bile salts	150 mg.

DONNAZYME™

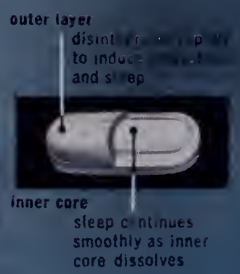
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A. H. ROBINS COMPANY, INCORPORATED • RICHMOND 20, VIRGINIA

For those patients who complain

carries your patients through the middle of the night





Each Nebralin timed-release tablet contains:

Dorsital* ..... 90 mg.
Warning: May be habit forming

Mephenesin ..... 425 mg.
*Dorsey brand of pentobarbital

CAUTION: Federal law prohibits dispensing without prescription

Dosage: One or two tablets ½ hour before retiring

about waking up at 2 A.M.



nebralin®

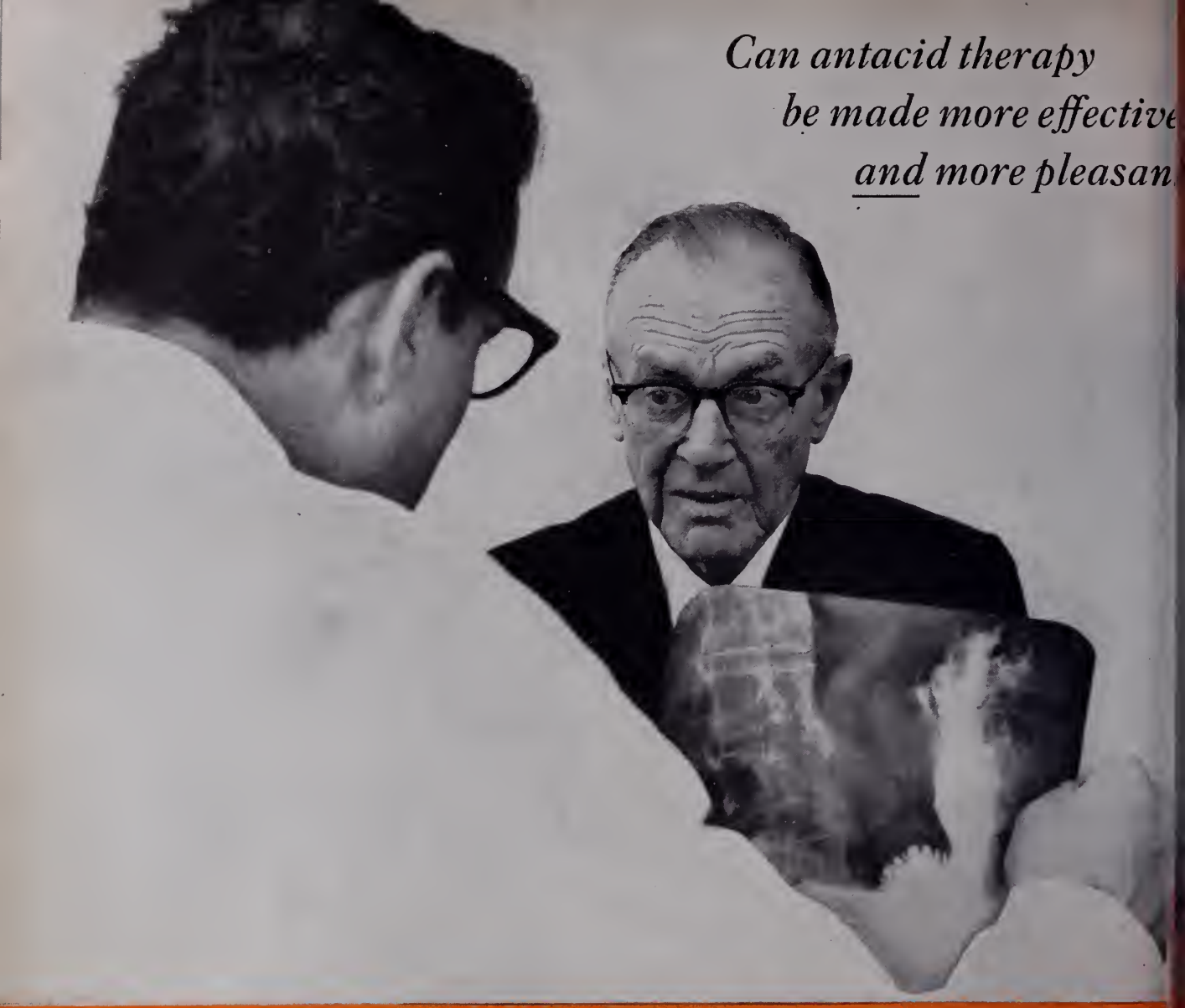
timed-release tablet

timed-release action for a full night's sleep

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1 Schlesinger, E. B.: Tr. New York Acad. Sc. 2:6, (Nov.) 1948.
2 Richards, R. K., and Taylor, J. D.: Anesthesiology 17:414, 1956.
3 Shideman, F. E.: Postgrad. Med. 24:207, 1958.
4 Berger, F.: Pharmacol. Rev. 1:243, 1949.

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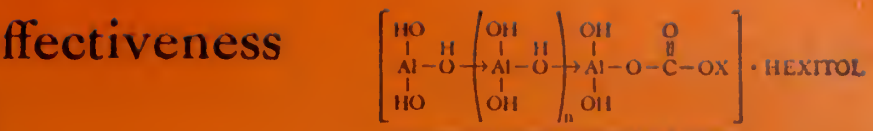
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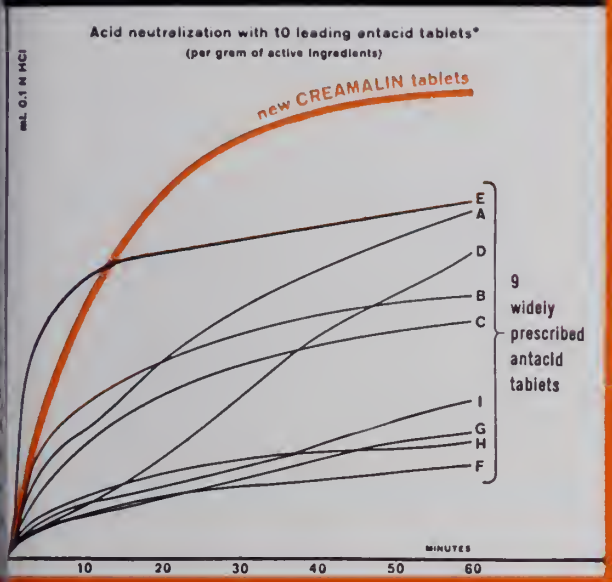
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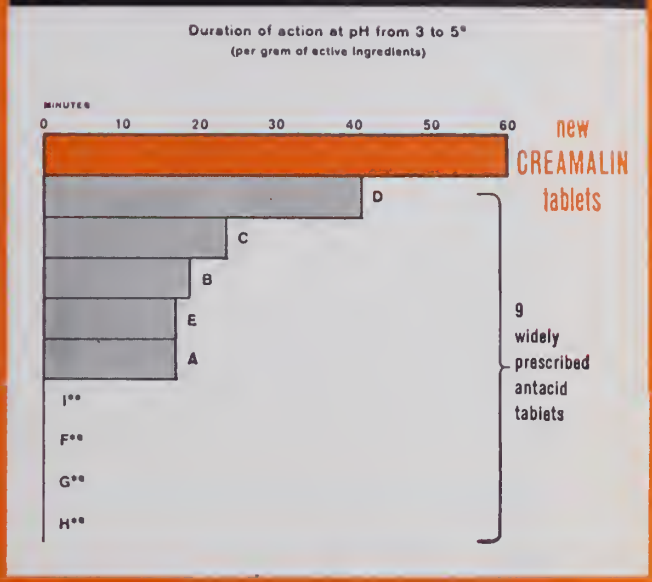
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*Hinkel, E. T., Jr., Fincher, and Tainter, M. L.: A new highly reactive aluminum hydroxide complex for gastric hyperacidity. To be published.
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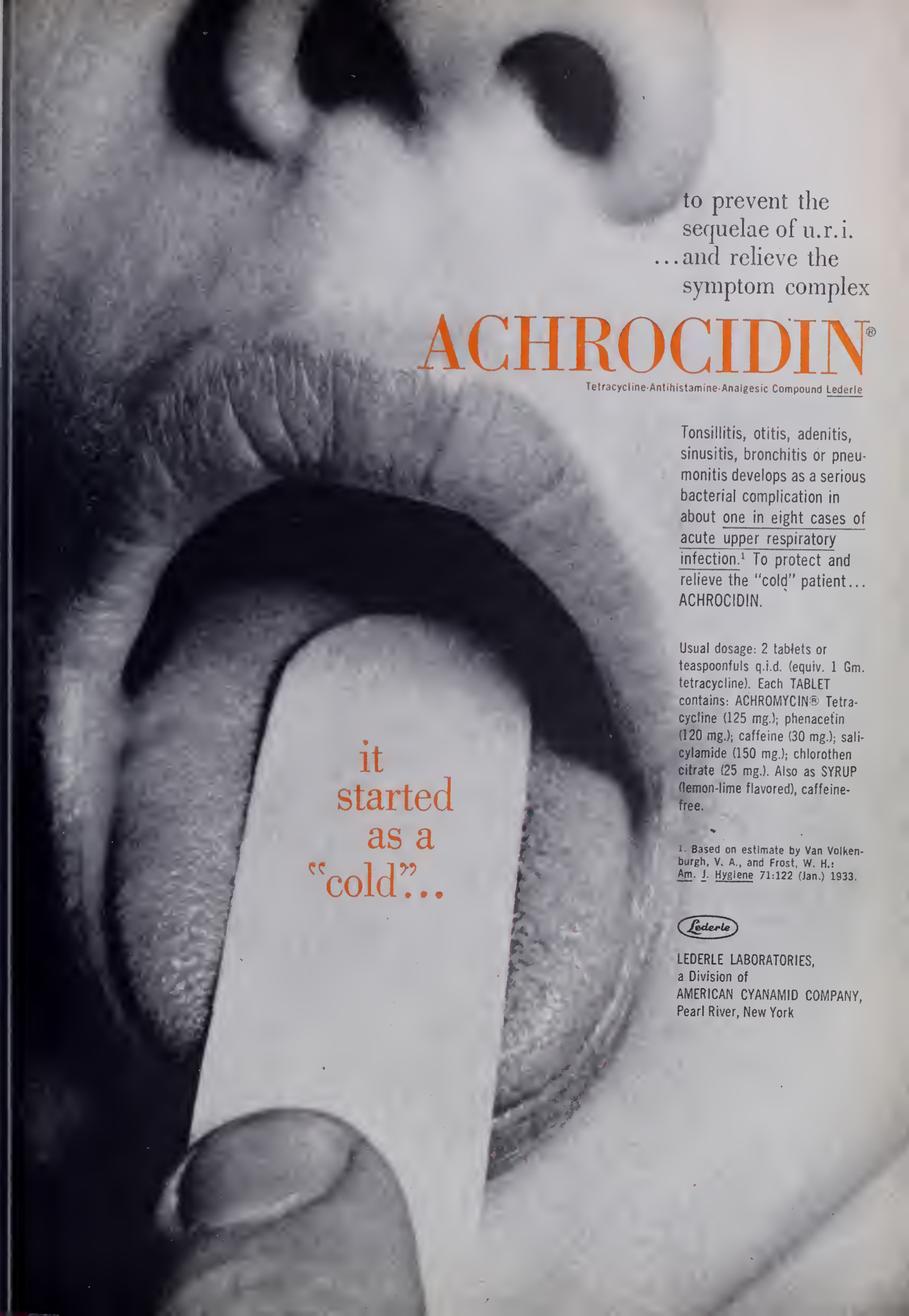
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1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933.

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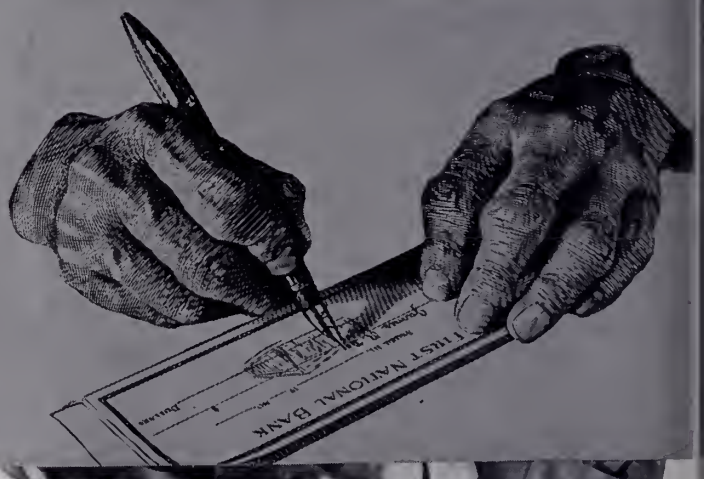
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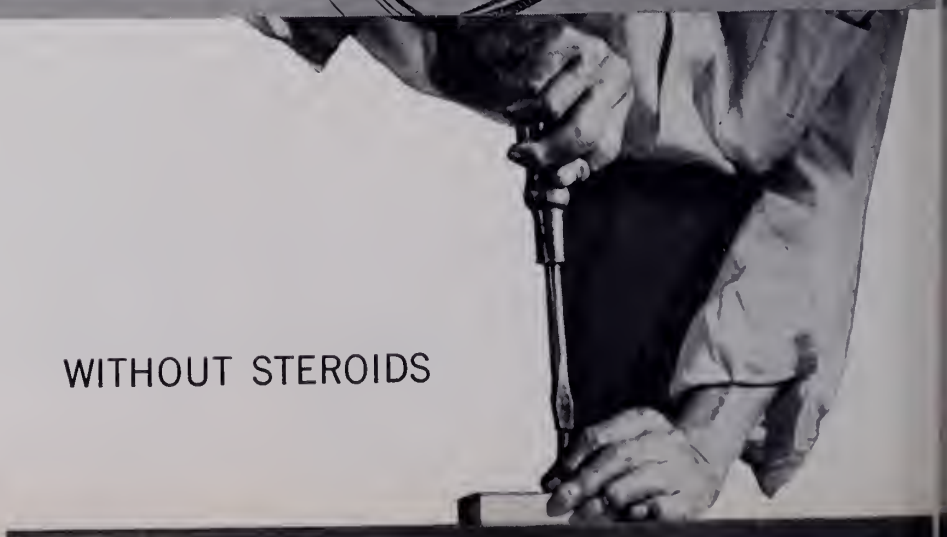


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Photographs show 2-stage Tandem Release disintegration.

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Acetylsalicylic acid (5 gr.)	300 mg.
Para-aminobenzoic acid (5 gr.)	300 mg.
Ascorbic acid	50 mg.
Dried aluminum hydroxide gel	100 mg.

All Buffered Pabirin is sodium- and potassium-free.

Dosage: Two or three tablets 3 or 4 times daily.

References: 1. Hart, D.; Bagnall, A. W.; Bunim, J. J., and Polley, F. H.: Ninth International Congress on Rheumatic Diseasea, Toronto, Ont. (June 25) 1957. 2. Report of Joint Committee, Medical Research Council & Nuffield Foundation, Treatment of Rheumatoid Arthritis, British Medical Journal (April 13) 1957. 3. Friend, D. G.: New England J. Med. 257:278 (Aug.) 1957.

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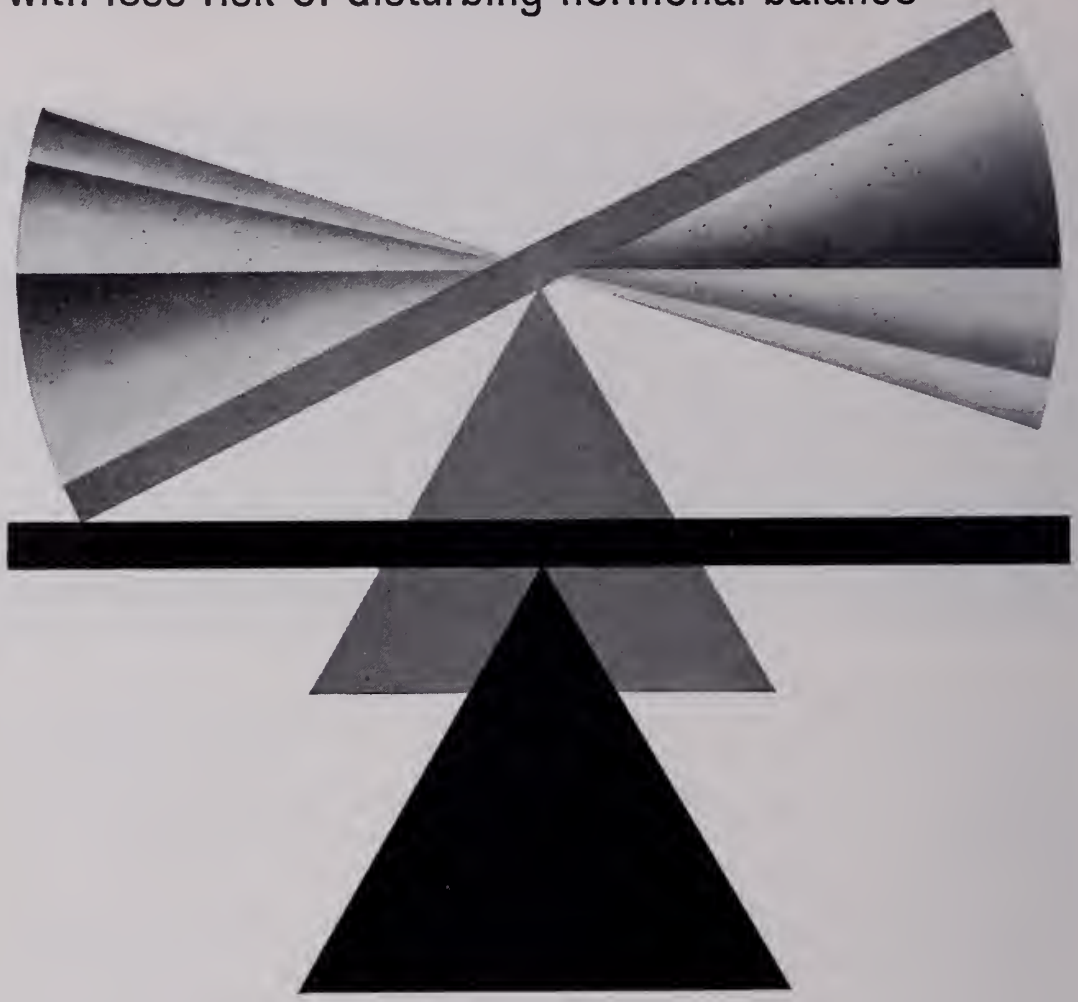
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1. Kuzell, W. C., and others.: Arch. Int. Med. 92:646, 1953. 2. Wolfson, W. Q.: J. Michigan M. Soc. 54:323, 1955. 3. Strandberg, B.: Brit. J. Phys. Med. 19:9, 1956. 4. Platt, W. D., Jr., and Steinberg, I. H.: New England J. Med. 256:823 (May 2) 1957.

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1. Hodges, F.T.: GP 14:86, Nov., 1956.

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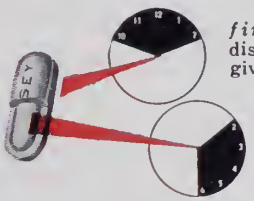
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References: 1. Lhotka, F. M.: Illinois M. J. 112:259 (Dec.) 1957. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958. 4. Bonica, J. J.: in Drugs of Choice, Mosby, St. Louis, 1958, p. 272. 5. Dascomb, H. E.: in Current Therapy, Saunders, Phila., 1958, p.78. 6. Bickerman, H. A.: in Drugs of Choice, Mosby, St. Louis, 1958, p.547.

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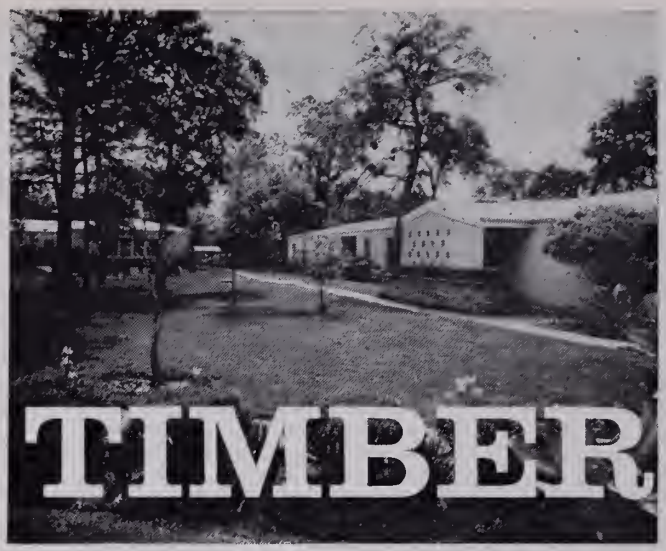
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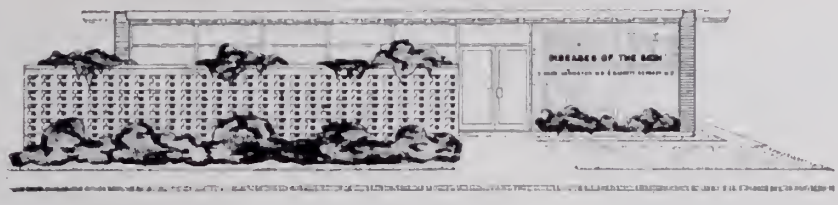
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OCTOBER, 1959

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REPORTABLE DISEASES

Reproduced below is the official list of reportable diseases for the State of Louisiana. Group 1 is the usual reportable diseases. This group is subdivided into Bacterial, Viral, Rickettsial, Protozoan, Parasitic, Venereal and Other. In this last sub-group "Other" are Cancer and Occupational Diseases. Although these are not rightly classified as communicable diseases, reports are required purely for statistical purposes. In Group 2 is a listing of the uncommon diseases which if they occur are of serious nature and epidemiological importance—such as Cholera, Plague, Malaria, Yellow Fever, etc. Group 3 consists of a list of those diseases which need not be reported individually or when seen in small numbers. Group 3 diseases should only be reported when seen in unusual numbers and then only by the number of cases seen, not by individual name. Group 4 consists of a single disease, i.e., Rabies in Animals, and this should be reported only following laboratory confirmation.

All reports of communicable diseases by the private physician to the State Board of Health are considered confidential information. The occurrence of any of the following diseases should be reported on Form PHS-2430 to your Local Health Unit or, if you prefer, a telephone call to the Unit will suffice. Supplies of these forms for use in confidential case reporting may be obtained from the Health Unit in your parish or from the State Board of Health, State Office Building, 325 Loyola Avenue, New Orleans.

GROUP 1—BACTERIAL

1. Brucellosis (Undulant Fever)
2. Diphtheria
3. Meningococcal Meningitis and Meningococcemia
4. Salmonellosis (includes Paratyphoid and all other Salmonella)
5. Pertussis (Whooping Cough)
6. Rheumatic Fever
7. Shigellosis
8. Streptococcal Sore Throat (includes Scarlet Fever)
9. Tetanus
10. Tuberculosis—Pulmonary
11. Tuberculosis—Other Types (Specify)
12. Tularemia
13. Typhoid Fever

VIRUS

14. Infectious Encephalitis (Primary Virus Mosquito-borne)
15. Infectious Hepatitis (includes Serum Hepatitis)
16. Measles
17. Poliomyelitis—Paralytic
18. Poliomyelitis—Non-Paralytic
19. Rabies in Man

RICKETTSIAL

20. Rocky Mountain Spotted Fever
21. Typhus Fever (Endemic)

PROTOZOAN

22. Amebiasis

PARASITIC

23. Trichinosis

VENEREAL

24. Chancroid
25. Gonorrhea
26. Granuloma Inguinale
27. Lymphopathia Venereum
28. Ophthalmia Neonatorum (Gonorrheal Ophthalmia)
29. Syphilis

OTHER

30. Cancer
31. Occupational Diseases (Classify by Cause) (Report Dermatoses only if two or more cases)

GROUP 2—ANY case of UNCOMMON DISEASE

32. Actinomycosis
33. Anthrax
34. Botulism
35. Cholera
36. Dengue
37. Glanders
38. Histoplasmosis
39. Leprosy
40. Leptospirosis (includes Weil's Disease)
41. Malaria
42. Plague
43. Psittacosis
44. Q. Fever
45. Rat-Bite Fever
46. Relapsing Fever
47. Smallpox
48. Toxoplasmosis
49. Trachoma
50. Typhus Fever (Epidemic)
51. Yellow Fever

GROUP 3—Report when occurring in UNUSUAL NUMBERS (Need not be reported individually by name)

52. Ascariasis
53. Chickenpox
54. Conjunctivitis, acute infectious (pink eye)
55. Diarrhea of new born (epidemic)—if 2 or more cases
56. Food Poisoning
57. German Measles
58. Hookworm
59. Impetigo Contagiosa
60. Influenza
61. Mumps
62. Ringworm of the Scalp
63. Scabies

GROUP 4—Reportable only by Laboratory Examination

64. Rabies in Animals



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case profile no. 2840*

A 55-year-old man complained of a painful, very stiff neck on the left side. There was marked muscle spasm that seemed to involve primarily the trapezius muscle. He had a severe headache, with the pain radiating down the left side of the neck to the shoulder. There were no other findings on physical examination and results of routine laboratory tests were normal.

Trancopal was prescribed in a dosage of 200 mg. q.i.d. The first and second dose of Trancopal gave only moderate relief. However, after the third dose, there was marked relief of the stiffness of the neck, as well as the headache and shoulder pain.

After the fourth dose, medication was gradually decreased and was discontinued on the sixth day. One week later, the patient had moderate recurrence of the torticollis, and Trancopal was again prescribed in doses of 200 mg. q.i.d. The patient obtained complete relief in one day and no further treatment was required.



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case profile no. 3382*

A 35-year-old woman, a professional model, had an acute, severe attack of anxiety. She was irrational and unable to eat, and was very restless.

Initial medication consisted of aspirin with codeine and later meprobamate. Neither was effective, and the patient's condition became worse. She had to be hospitalized because of the marked anxiety. Trancopal was then prescribed in a dosage of 200 mg. q.i.d., in addition to bed rest.

After the second dose of 200 mg. of Trancopal, the patient became calm and rational, and was able to eat. The dosage of Trancopal was gradually reduced to 100 mg. q.i.d. on the fourth hospital day, after which the patient was discharged and was able to return to her normal occupation.

**Clinical Reports on file at the Department of Medical Research, Winthrop Laboratories.*

Turn page for complete listings of Indications and Dosage.

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Osteoarthritis	Angina pectoris
Disc syndrome	Alcoholism
Fibrositis	
Ankle sprain, tennis elbow, etc.	
Myositis	
Postoperative muscle spasm	

Dosage: Adults, 100 or 200 mg. orally three or four times daily. Relief of symptoms occurs in fifteen to thirty minutes and lasts from four to six hours. The higher dosage is recommended for the treatment of patients in the acute stages of painful musculospastic conditions, and anxiety and tension states. Children (5 to 12 yrs.), 50 mg. three or four times daily.

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1. Collective Study, Department of Medical Research, Winthrop Laboratories.
2. Lichtman, A. L. (N.Y. Polyclinic M. Sch. & Hosp.): Kentucky Acad. Gen. Pract. J. 4:28, Oct., 1958.
3. Mullin, W. G., and Epifano, Leonard (Long Island College Hosp.): Am. Pract. & Digest Treat. To be published.
4. Ganz, S. E. (New York, N. Y.): J. Indiana M. A. 52:1134, July, 1959.

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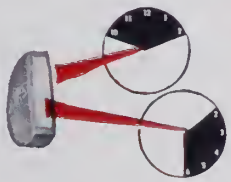
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References: 1. Lhotka, F. M.: Illinois M. J. 112: 259 (Dec.) 1957. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

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bibliography: (1) Green, J. R., & Steelman, H. F.: Epileptic Seizures, Baltimore, Williams & Wilkins Company, 1956, p. 136. (2) Broy, P. F.: *Pediatrics* **23**:151, 1959. (3) Davidson, D. T., Jr., in Cann, H. F.: Current Therapy 1959, Philadelphia, W. B. Saunders Company, 1959, p. 512. (4) Smith, B., & Farster, F. M.: *Neurology* **4**:137, 1954. (5) Zimmerman, F. T.: *New York J. Med.* **55**:2338, 1955. (6) Lemere, F.: *Northwest Med.* **53**:482, 1954. (7) Perlstein, M. A.: *Pediat. Clin. North America*: **4**:1079 (Nov.) 1957. (8) Livingston, S., & Pauli, L.: *Pediatrics* **19**:614, 1957. (9) Carter, C. H., & Maley, M. C.: *Neuralogy* **7**:483, 1957. (10) Keith, H. M., & Rushton, J. G.: *Proc. Staff Meet. Mayo Clin.* **33**:105, 1958.

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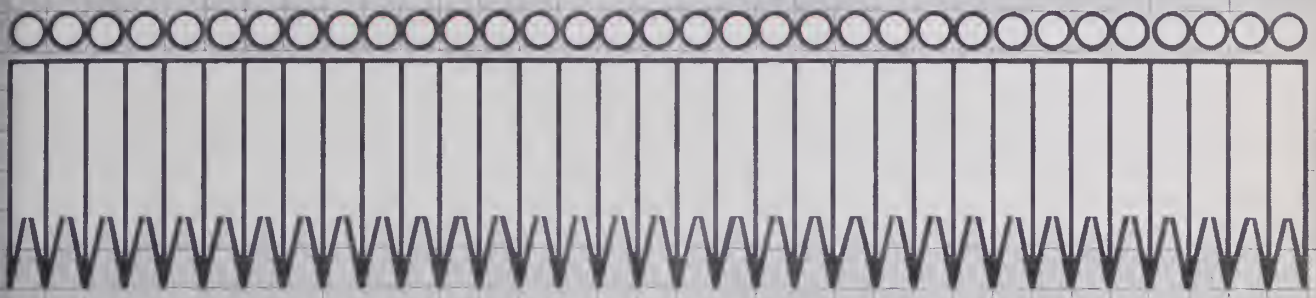
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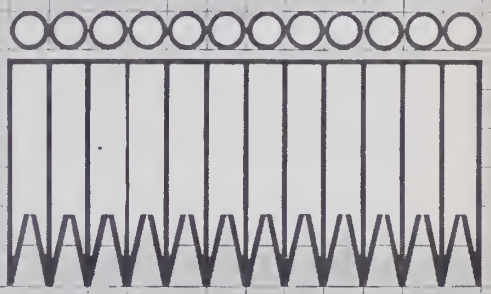
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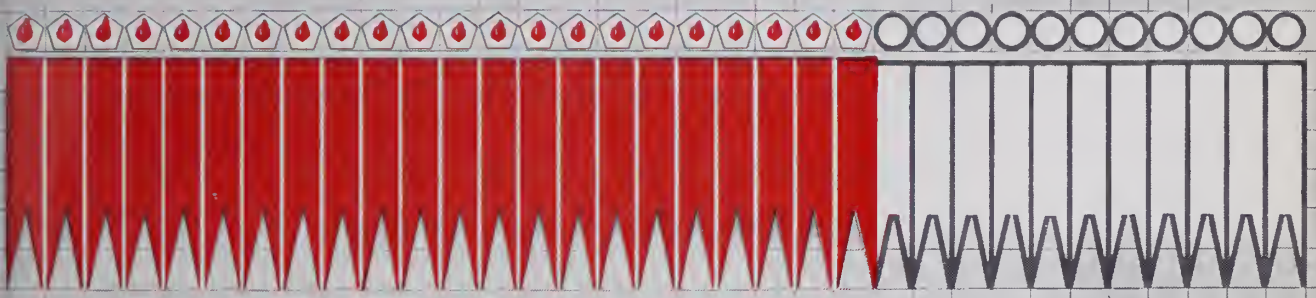
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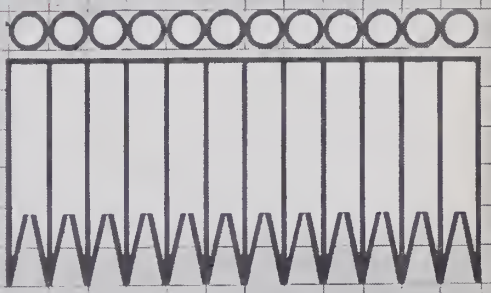


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1. Boland, E. W., and Headley, N. E.: Paper read before the Am. Rheum. Assoc., San Francisco, Calif., June 21, 1958.
2. Bunim, J. J., et al.: Paper read before the Am. Rheum. Assoc., San Francisco, Calif., June 21, 1958.

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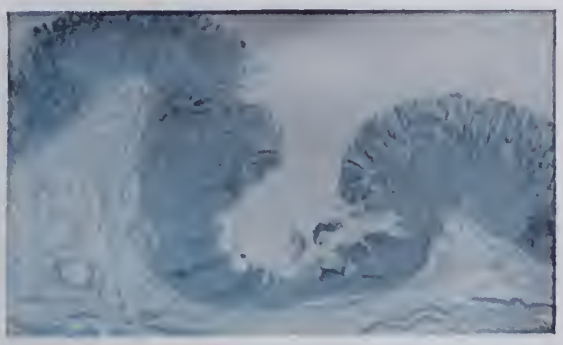
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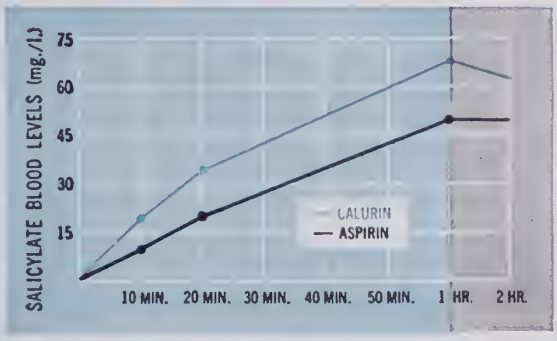
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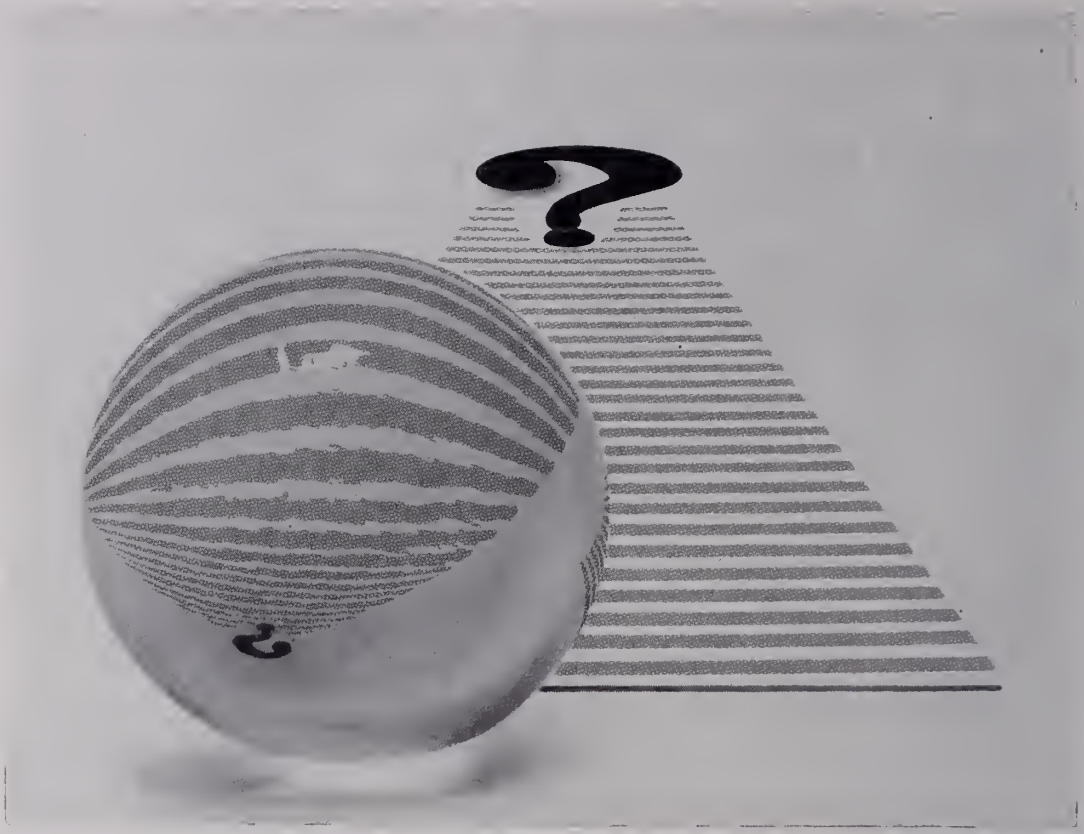
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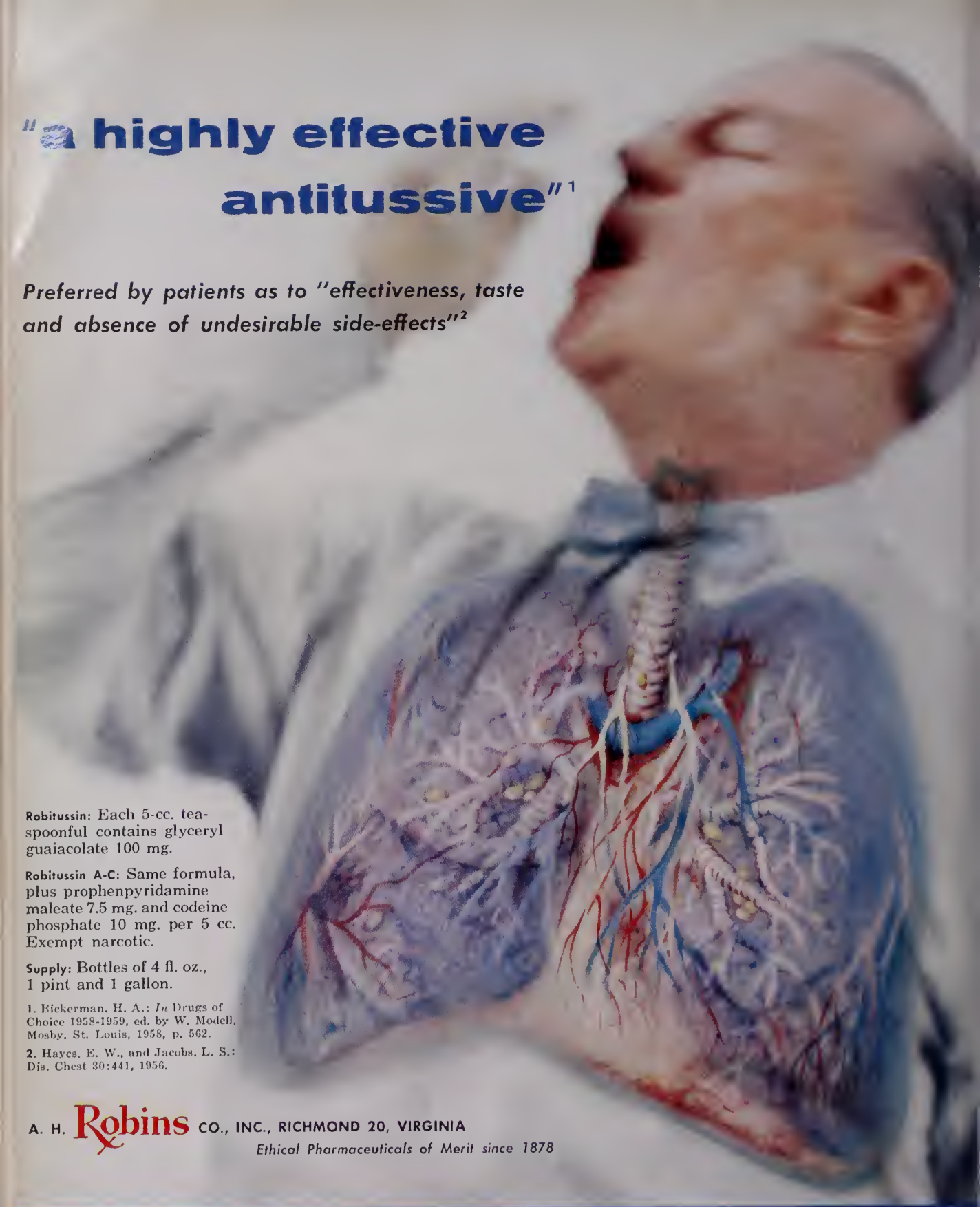
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Complications Incidental to Conservative Hysterectomy*

• The history, mortality, morbidity, and complications of both vaginal and abdominol hysterectomy, and the question of whether it is wise to perform additional surgery at the same time, are some of the aspects of the subject discussed by the author.

BUFORD WORD, M. D. †
Birmingham, Alabama

EXCISION of the womb has replaced appendectomy as the number one major surgical operation currently performed in hospitals throughout the country. A review of records in the University and St. Vincent's Hospitals, Birmingham, Alabama, reveals that in a ten-year period, January 1, 1949 to January 1, 1959, hysterectomy exceeded by far any other major surgical procedure.

TABLE 1

FREQUENCY OF HYSTERECTOMY COMPARED WITH OTHER OPERATIONS *

Hysterectomy	4771
Primary appendectomy	4069
Hernia repair	3440
Oophorectomy	1997
Cholecystectomy	1313

* All operations performed in St. Vincent's and University Hospitals, Birmingham, Alabama, January 1, 1949, to January 1, 1959.

* Presented at the Seventy-ninth Annual Meeting of the Louisiana State Medical Society in New Orleans, May 5, 1959.

† From the Department of Obstetrics and Gynecology, Medical College of Alabama, Birmingham, Alabama.

The Beginning of Hysterectomy

Vaginal. The first definitely recorded hysterectomy was done not by a surgeon but by a patient on herself. In about 1670, Faith Raworth of near Sheffield, England, long suffering from prolapse of the uterus, went into her garden, grasped the uterus with her hand and cut it off with a kitchen knife. In the process, she cut a hole in her bladder but did survive the self-performed hysterectomy and lived several years. Although a surgeon attempted to close the resulting vesicovaginal fistula, urine continued to dribble from her for the rest of her life.[1]

In 1813, Langenbeck [1] of Gottingen, Germany, was the first physician to do a vaginal hysterectomy. The operation was for carcinoma of the cervix and was accomplished without entering the peritoneal cavity. Few were convinced that hysterectomy had actually been done. Not until autopsy was Langenbeck able to prove to the medical profession that he had accomplished what he claimed.

Among authors reporting vaginal hysterectomies between 1813 and 1860 were Glover,[1] Sauter,[1] Dubourg[1] and Recamier.[1] All of the early vaginal hysterectomies were for carcinoma of the cervix or inversion of the uterus.

The first planned vaginal hysterectomy for uncomplicated uterine prolapse was performed in New Orleans on January 12, 1861, when Dr. Samuel Choppin[2] operated on 38-year old Jane Arnous, mother of four. Dr. Choppin had previously tried to narrow the vagina but the prolapse recurred. After failure of the more conservative procedure he successfully removed the uterus and cured the patient. On February 19, 1861, he presented Mrs. Arnous to his class of students at the New Orleans School of Medicine, holding her womb in her hand to demonstrate that a patient could survive the operation and live without her uterus. Prior to that time, most authorities believed the uterus was essential to a woman's life.

Abdominal. Abdominal hysterectomy began as a result of diagnostic error. In all recorded instances of the first attempts to remove the uterus abdominally the surgeon thought he was operating to remove an ovarian cyst.

Again, Langenbeck,[3] in 1825, was the first to attempt an abdominal hysterectomy. He made an incision through the lena alba and for some unknown reason abandoned the procedure. The patient died several hours later. The first to complete an abdominal hysterectomy (supracervical) was A. M. Heath,[3] of Manchester, England, on November 21, 1842. The patient died thirteen hours postoperatively of shock and hemorrhage. Fourteen ounces of blood were found in the peritoneal cavity. The second to do an abdominal hysterectomy (supracervical) was Charles Clay,[3] also of Manchester, England, on January 16, 1844. The patient died on the fifteenth postoperative day, after being dropped on the floor by a nurse who was changing her bed linen. In June, 1846, John Ballenger[3] of Charleston, South Carolina, did an abdominal hysterectomy (supracervical) after making a correct preoperative diagnosis. His patient died on the fifth postoperative day, of peritonitis. In June, 1853, Walter Burnham,[3] of Lowell, Massachusetts, performed the first successful abdominal hysterectomy with survival of the patient. The hysterectomy was not originally intended. The patient was laparotomized for removal of an ovarian cyst. When the abdomen was opened a large tumor mass extruded, revealing its attachment to the top of the vagina. Dr. Burnham tried to replace the tumor and close the abdomen but was unable to do so and was forced to perform a supracervical hysterectomy.

In September 1853, Gilman Kimball,[3] of Lowell, Massachusetts, performed the first successful planned abdominal hysterectomy after making a correct preoperative diagnosis. The patient's convalescence was stormy but at the end of eight months she had recovered to robust health.

The magnitude of the accomplishments of Langenbeck, Burnham, Kimball, and Choppin can best be appreciated by understanding the attitude of the surgical profession of that day towards hysterectomy as expressed by Dieffenback,[1] one of the greatest surgeons of his time (1792-1847). He said" To take the entire womb from the belly of a woman means the removal of that woman's soul, even if it be a diseased soul—according to my opinion an indication for this operation does not exist—methods of extirpating the uterus easier than the ones now in use will hardly be discovered."

Mortality

The mortality of hysterectomy has been reduced during the past hundred years from almost 100 per cent to none in a thousand[4] in one recently reported series, 1 in 1142 cases[5] in another, and 1 in 1000[6] in a third series. Stalker[7] reported on 4453 hysterectomies done in hospitals in upstate New York with 15 deaths, or a mortality of 0.33 per cent. Johnson[8] reported on 1246 hysterectomies with 5 deaths, or a mortality of 0.4 per cent. There were 14 deaths in the 4771 hysterectomies reported in Table 1, a mortal-

ity of 0.29 per cent. Te Linde[9] reports that in a recent survey of hysterectomies at Johns Hopkins Hospital there were 2 deaths per 1000 in the abdominal group and 2 deaths per 1000 in the vaginal group. These statistics demonstrate the comparative safety of hysterectomy so far as mortality is concerned.

Rare Complications

Many rare complications incidental to conservative hysterectomy have been recorded. They range from bilateral ligation of the ureters,[10] paralysis of the brachial plexus,[11] perforation of the stomach,[7] postoperative biliary vaginal fistula [12] and arteriovenous fistulas of the ovarian artery and vein,[13] to leaving in the peritoneal cavity a variety of foreign bodies such as sponges, towels, scissors, clamps and several varieties of retractors.[14]

Complications Incidental to Conservative Hysterectomy

Since January 1, 1949, the author has performed conservative hysterectomy on 178 patients. All case histories of these patients have been analyzed, noting complications and morbidity. There were no fatalities although complications were frequent and often serious enough to threaten life. In fact, the recovery of some of these patients seemed, at the time, to be entirely in the hands of fate. The 4 supracervical hysterectomies listed in Table 2 warrant some explanation. All

TABLE 2
TYPE OF HYSTERECTOMY

Vaginal		94
Abdominal:		
Total	80	
Supracervical	4	84
TOTAL		178

were on patients whose general physical condition dictated minimal surgical trauma. In 2 patients the cervical stump has since been removed. One patient died a year following the operation, of carcinoma of the ovary which she had at the time and the fourth patient has been lost to follow-up. To do only total hysterectomies makes good science but not always good sense.

Morbidity

It is noted in Table 3 that morbidity in vaginal hysterectomy is approximately twice that of morbidity in the abdominal group which reflects, more or less, the seriousness of complications encountered in each group. In the abdominal group only one of the complications was a serious threat to the patient's life. This was in the patient whose ureters were accidentally ligated. In the vaginal group the lives of 3 patients were seriously endangered. One had peritonitis, another intestinal obstructions and a third required

TABLE 3
COMPLICATIONS IN 178 CONSERVATIVE HYSTERECTOMIES

94 Vaginal (Morbidity 38%)	
Morbid	36
Granulations in vaginal vault	10
Cystitis	9
Cuff abscess	8
Parametritis	4
Short vagina	3
Broad ligament hematoma	3
Postoperative hemorrhage	2
Intraoperative hemorrhage	2
Anterior vaginal wall hematoma	2
Prolapse of fallopian tube	2
Perforation of bladder	2
Stitch-rectal fistula	1
Puncture of rectum	1
Peritonitis	1
Intestinal obstruction	1
Unsuspected carcinoma	0

84 Abdominal (Morbidity 20%)	
Morbid	17
Granulations in vaginal vault	8
Cystitis	2
Pelvic abscess	2
Cuff abscess	1
Wound abscess	1
Vaginal cuff hemorrhage	1
Postoperative hernia	1
Prolapse of vaginal vault	1
Bilateral ligation of ureters	1
Thrombophlebitis	1
Peritonitis	1
Wound hematoma	1
Broad ligament hematoma	1
Cotton suture sinus	1
Failure of 3d° repair	1
Unsuspected carcinoma in situ	1

laparotomy for re-ligation of the right ovarian vein.

The morbidiy figures for the two groups of patients, indicating that complications are more frequent and serious in the vaginal hysterectomy group, are confirmed by the amount of blood given to the two groups of patients. Thirty-eight thousand cubic centimeters of blood were given to the 84 patients who underwent abdominal hysterectomy (approximately 450 cubic centimeters each) and 70,000 cubic centimeters of blood were given to the 94 patients who had vaginal hysterectomy (approximately 750 cubic centimeters each).

Through the years, the cardinal principles upon which all advances in surgery have been based are relief of pain during the operation, hemostasis, and prevention of infection. There was no patient in this series in whom any of the complications were thought to be caused by the anesthetic agent or its administration. Most were due to inadequate hemostasis and infection. Injuries to the genito-urinary system and the gastro-intestinal tract were accidental and due perhaps to complacency.

Antibiotics were not used routinely either preoperatively or postoperatively. Although it has been shown by many authorities that routine preparation of patients prior to surgery with antibiotic vaginal suppositories will reduce the morbidity and also that routine administration of antibiotics postoperatively will reduce complications, it is felt that antibiotics are no substitute for ritualistic aseptic technique and positive hemostasis. Careless surgical technique and dependence upon antibiotics only invites disaster. To quote Gardner,[15] "Finally, in my humble opinion, operative technique and not manner of using antibiotics still remains the all important factor in determining mortality, morbidity and end results from any operative procedure".

Discussion of Complications

Granulation tissue. Granulations in the vaginal vault are of little consequence and can be treated by cauterization at a follow-up visit in the office. It should be borne in mind, however, that some of these granulations are, in fact, fallopian tubes that have prolapsed. Two such cases have been found since the first of the year. In one instance the pathologist diagnosed the tissue as chronic endocervicitis but when it was called to his attention that a vaginal hysterectomy had been done six weeks previously, a second examination of the slide resulted in a corrected diagnosis.

Cystitis. Cystitis is a common complication following surgery when a catheter is left in place for constant urinary drainage. It may be prevented by administration of a sulfa drug during the time the catheter remains in the bladder.

Vaginal cuff abscesses and parametritis. Vaginal cuff abscesses and parametritis are more common following vaginal hysterectomies, particularly when the cuff is closed. A dead space is created between the peritoneum and the vaginal mucosa, in which there is some accumulation of blood and bacteria, often resulting in abscess formation. This may also happen in abdominal hysterectomy but is less likely because the abdominal approach permits greater assurance of positive hemostasis.

Pelvic abscesses. Pelvic abscesses sometimes occur following abdominal hysterectomy as a result of spillage of vaginal flora into the cul-de-sac and over the denuded vaginal cuff area. During the process of hysterectomy, uterine elevators express material from the uterine cavity into the vaginal vault. This material, which collects in the upper vagina, mixes with bacteria present in the area and when the uterus is amputated, unless the vaginal apex is held taut with clamps until closed, the material squeezed into the vaginal vault during hysterectomy flows back into the peritoneal cavity. Although this material may be sponged out, bacteria remain that may initiate an abscess. Any relaxation of the vaginal vault before closure, following removal of the uterus, invites pelvic infection.

Broad ligament hematomas. Broad ligament hematomas and intraoperative and postoperative hemorrhage are more common in vaginal hysterectomies than in the abdominal type. In both types of hysterectomies the nonperitonealized portion of the bladder is removed from the anterior wall of the uterus and cervix. When doing an abdominal hysterectomy, since all vessels that bleed are visible, hemostasis can be accomplished with certainty and without exception. In doing a vaginal hysterectomy, often the same vessels are not visualized and may retract between the leaves of the broad ligament and continue to ooze. Obviously, if any of the larger vessels are left unligated or are insecurely ligated or subsequently become unligated, a resulting broad ligament hematoma may progress to exsanguinating retroperitoneal hemorhage. There may also be continuous oozing from small vessels on the denuded surface of the bladder following closure of the vaginal vault. If oozing continues from this denuded area and the vaginal vault is closed extravasated blood dissects into the broad ligaments. Patients recently pregnant are not good candidates for vaginal hysterectomy as the blood supply is so abundant that complete hemostasis is more difficult. Most authorities recommend that hysterectomy be deferred for four to six months after delivery.

Additional Surgery

Additional surgery, as noted in Table 4, did not appear to increase the morbidity or complications in either group with the exception of one instance, that of repair of an old third degree perineal laceration immediately following total abdominal hysterectomy. This additional surgery, although indicated, led to complications, confirming the fact that one good operation at a time is enough. The patient had no complications so far as the hysterectomy was concerned but the third degree repair failed.

TABLE 4
ADDITIONAL SURGERY IN 178 CONSERVATIVE HYSTERECTOMIES

94 Vaginal	
A&P Repair	40
Perineorraphy	20
Laparotomy	3
Right salpingectomy	2
Enterocele repair	1
Excision of dermoid cyst	1
Vulvectomy	1
Hemorrhoidectomy	1
Anterior repair	1
Excision of urethral caruncle	1

84 Abdominal	
Appendectomy	38
Bilateral salpingo-oophorectomy	6
Oophorectomy	6
Bilateral salpingectomy	5
Biopsy of ovaries	4
Unilateral salpingectomy	2
Unilateral salpingo-oophorectomy	2
Postoperative hernia	1
Repair of 3d° laceration-old	1
Salpingo-oophorectomy	1

Three laparotomies were done following vaginal hysterectomy, one eight hours postoperatively, to re-ligate the right ovarian vein, after 7000 cubic centimeters of blood had been pumped into the patient. Another was done immediately following vaginal hysterectomy and before the cuff was closed, because it was thought a major pelvic vessel had been insecurely ligated. In our haste to enter the abdomen the bladder was accidentally perforated. No bleeding vessel was found, the cuff was closed from above and the patient made an uneventful recovery. The third patient required laparotomy on the eighth postoperative day, for intestinal obstruction due to a pelvic abscess beneath the bladder flap that could not be drained from below.

TABLE 5
PREVIOUS PELVIC OPERATIONS NOTED IN 178 CONSERVATIVE HYSTERECTOMIES

	In 94 Vaginal	In 84 Abdominal
Biopsy of the cervix	27	26
Dilatation and curettage	15	24
Previous pelvic operation	24	17

Previous Pelvic Operations

It is noted in Table 5 that 24 of the patients in the vaginal group had had previous pelvic operations. Most of these operations were for suspension of the uterus some years prior to hysterectomy. Many authorities claim that a previous pelvic

operation is a contraindication to vaginal hysterectomy. Our limited experience has not proved this to be true. Some of the easiest vaginal hysterectomies were in the group who had had previous uterine suspension. The cardinal consideration in doing a vaginal hysterectomy is whether or not the cervix can be easily pulled down flush with the vulva, when grasped with a tenaculum. Two of the most difficult cases in this series of vaginal hysterectomy were encountered in women who had had ruptured appendices in early life. Although there was mobility on the left side, the right side would not descend and the structures were difficult to sever and ligate.

In two instances the operation was begun vaginally and completed abdominally because forced descent of the uterus had been misjudged. The cervix, in each instance, was elongated and old tears in the base of the broad ligaments prevented any descent of the body of the uterus. In selecting vaginal hysterectomy, mobility of the uterus on its vertical axis is a more important factor than a history of a previous pelvic operation.

Prevention of Complications

Any plan to reduce complications incidental to conservative hysterectomy must include either vaginal cytology studies. biopsy of the cervix and/or uterine curettage. The results will determine whether or not conservative hysterectomy is the proper procedure for the individual patient. To reemphasize, the presence of carcinoma of the uterus should be excluded before a conservative hysterectomy is performed. Although carcinoma of the uterus was not excluded in every patient prior to conservative hysterectomy, it was due more to good luck than good medicine that only one removed uterus revealed unsuspected carcinoma in situ of the cervix.

The author's suggestions for eliminating complications incidental to hysterectomy are not a one, two, three, step by step procedure similar to instructions found in a manual on how properly to operate a washing machine but rather, stress the importance of unyielding adherence to the basic principles of good surgical technique. In essence, stay close to the uterus and keep the surgical wound clean and dry. By staying close to the uterus there is less likelihood of injury to the urinary tract and rectum. By keeping the operative field clean, exposure of all raw surfaces and the peritoneal cavity to bacteria will be reduced to a minimum and by keeping the wound dry there will be less chance of hemorrhage during and/or after the operation.

Failure to observe all factors that may result in hemorrhage, infection, or injury to the adjacent organs was responsible for most of the complications listed in this paper.

Tricks of the Trade

Most tricks of the trade in the technique of hysterectomy are learned only from experience. The writer's experience has enabled him to learn only a few. However, one or two might be worthy of mention.

In doing an abdominal hysterectomy, if a pack is loosely inserted into the vagina and removed when the uterus is amputated, most of the material expressed from the uterine cavity will be removed with the pack. In doing a vaginal hysterectomy, less blood loss will occur if the vaginal flaps are elevated anteriorly and posteriorly and not all the way around, leaving a strip of mucosa laterally, to be clamped with the cardinal ligaments. The peritoneal cavity should be entered anteriorly, exactly in the midline, by making a small incision, after which the fingers are inserted, to stretch the opening and at the same time sweep the ureters laterally. Hemorrhage will also be reduced if the posterior vaginal mucosa and the peritoneum of the cul-de-sac are incised in close proximity. If these two structures are severed a considerable distance apart, a large raw area on the posterior vaginal flap is created. This area is rich in vessels that continue to ooze throughout the procedure and after.

If the posterior vaginal mucosa and posterior peritoneum are incised close together, an interlocking running suture can

be inserted from the base of one cardinal ligament to the other which easily controls blood loss in this area.

Summary and Conclusion

1. Hysterectomy has replaced appendectomy as the number one major surgical procedure performed in hospitals throughout the country.

2. A brief historical development of hysterectomy is recorded.

3. Morbidity and complications occurring incidental to 178 conservative hysterectomies are tabulated.

4. All conservative hysterectomies should be preceded by tests to exclude the presence of cancer of the uterus.

5. Any plan for reducing complications incidental to conservative hysterectomy must stress the importance of unyielding adherence to good surgical technique. It is better to control hemorrhage and prevent infection than to replace blood loss and rely on antibiotics.

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Discussion

Dr. Julius H. Mullins (Baton Rouge): We have been most fortunate to have Dr. Buford Word of Birmingham as our guest speaker in the gynecological section. Dr. Word was trained here in New Orleans. It is a great pleasure to renew his friendship and to have him visit with us again.

Dr. Word has presented his series of 178 personal cases of hysterectomies done in the past ten years. In this paper, I was greatly impressed with the integrity with which the unfavorable results were dealt in such detail and the greater favorable results glossed over. It is a great satisfaction for us to find that we are not the only ones to have minor and grave operative complications.

Periodic and comprehensive evaluation of our results is essential to every gynecological surgeon's progress and efficiency.

The incidence of complications was greater in the vaginal hysterectomies than in those done from the abdominal route. I feel that this is significant.

The decision of an abdominal or vaginal route for hysterectomy is also partly determined by the results obtained in each instance by the operator himself. When there is a difficult peritoneal entry, hemorrhage, or inability or difficulty in delivering or removing the uterus, the operator should unhesitantly change to the abdominal route.

Complete abdominal hysterectomy is not an unmixed blessing and should be avoided if there is any undue risk of shock, hemorrhage, or injury to adjacent viscera.

Exploration of the abdominal viscera should be done at the time of the abdominal hysterectomy unless it is specifically contraindicated.

Cesarean-hysterectomy should be more widely practiced when there is a combined indication.

Blood tranfusion, especially during general anesthesia may be a lethal modality, and should not be ordered unless actually indicated.

Bowel preparation should be done more frequently prior to hysterectomy, so as to be prepared for any bowel surgery or bowel injury.

Cul-de-sac abscess following total hysterectomy should be drained through the apex of the vagina during rectovaginal examination.

Pelvic infection can be minimized if the apex of the vagina is clamped across with a kidney clamp when excising the cervix from the vaginal cuff. This prevents vaginal contamination in the same manner as division of the appendix between clamps during appendectomy. It is reassuring during hysterectomy to outline the ureters in their course and this is facilitated

very easily by palpating the ureters between the thumb and index finger and with pressure it "pops" from the palpating fingers in the same fashion as a green pea when extruded from a pod.

During hysterectomy in which the ovaries are normal and are allowed to remain in situ, the ovarian ligaments should be clamped close to the uterus and if necessary even removing part of the uterine musculature so as to retain as much ovarian circulation as possible. This is a great help in preserving the ovarian function, especially if the patient is premenopausal.

The use of antibiotics is certainly no excuse for faulty surgical technique and one should strive to adhere to the basic and exacting surgical principles and to improve upon them. The opening of the peritoneal cavity is no small insult and the judicious use of antibiotics for the first three days will shorten convalescence, decrease morbidity, and add to the patient's well-being and comfort.

In the group with which I am associated, we have had several cases of persistence of vaginal bleeding several months posthysterectomy. These have occured in cases of endometriosis and a biopsy of the vaginal cuff revealed an endometrical lesion in the cuff.

One of the most annoying complications with which we have had to deal has been bleeding from the vaginal cuff on the tenth to fifteenth day postoperatively. It has occurred occasionally in our cases of abdominal hysterectomy and for the most part in those cases which had no vaginal plastic surgery or any vaginal pack inserted. The cuff always appears the same, very granular, vascular, and with marked destruction of the chronic #1 catgut.

Resuturing it is no great chore, but we have often wondered if the urine which often gravitates into the vagina when using a bed pan could contribute to the destruction of the catgut sutures.

Louisiana State Medical Association

In our July number we, in our remarks upon the proceedings of the "Attakapas Medical Society," promised to aid in bringing about a State Medical Convention.*** The zeal, industry, harmony, and ability with which every step of the proceedings of this new Convention were characterized, has inspired us with increased interest in the subject, and led us to believe that the Physicians of Louisiana, as a body, active and intelligent, would hail with no ordinary pleasure an opportunity to emulate the example set before us by the Profession of a neighboring State. In vain have we, in almost every state of this great Union, sent in prayer after prayer and petition upon petition, to the respective State Legislatures, asking that protection which was not denied the artizan, the mechanic and, in some instances, the gambler, yet our appeal, although pressed in the most respectful language, and sustained by argument, as weighty as truthful, has been disregarded and the motives condemned as arbitrary and selfish. Wearied with asking for bread, and receiving instead stones, the Profession is at last, we are truly proud to perceive, about to rise and vindicate its own claims to that respect and position in society, which the prejudices of a few and the ignorance of the many have so long denied to it.

Let the Profession, then, of the State meet in the city of New Orleans, sometime during the winter or spring, and organize an association, the object of which shall be to lay down a platform upon which all the respectable physicians of the State may unite and discuss in a calm and temperate tone the question of "medical reform," and such others as affect the interest and good report of the Profession.

New Orleans M. & S. J. 5:269 (September) 1848

Surgery For Hyperthyroidism*

• The authors present a brief for surgical excision of hyperfunctioning thyroid tissue in preference to administration of radioactive iodine and antithyroid drugs, and review the results obtained in one hundred and forty nine patients who had thyroidectomy.

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THE pathogenesis of hyperthyroidism is only partially understood, and its etiology is still an enigma. The disease, nonetheless, can now be treated with a high degree of safety and effectiveness. Thyrotoxicosis can be controlled by three methods: (1) Administration of antithyroid drugs which block the synthesis of thyroxin, (2) radioactive iodine which diminishes thyroxin production by producing thyroid cellular damage, and (3) surgical excision of hyperfunctioning thyroid tissue.

Our purposes in the present report are to evaluate the results of the surgical treatment of hyperthyroidism at the Mahorner Clinic over a period of ten years (1949-1958, inclusive), and to explain why we believe that most thyrotoxic patients are best treated by subtotal thyroidectomy.

Material

During the past decade 531 patients underwent thyroidectomy by members of the Surgical Staff of the Mahorner Clinic. One hundred and forty-nine patients had hyperthyroidism (Table 1). Nine of the operations were for recurrent thyrotoxicosis. Of the remaining patients, 308 had nontoxic nodular goiter, 52 chronic thyroiditis, and 25 carcinoma.

TABLE 1
RELATIVE INCIDENCE OF THYROID DISEASES TREATED BY THYROIDECTOMY 1949-1958

Gland type	No. of cases	% of cases
Toxic diffuse	109	20.4 }
Toxic nodular	40	7.5 } 27.9
Non-toxic nodular	308	57.7
Chronic thyroiditis	52	9.7
Carcinoma	25	4.7
Total	534	100.0

The youngest patient with hyperthyroidism was 15 years old, the oldest 71 years. The average age of the patients with toxic diffuse goiter was 35 years, or 13 years younger than the average age of patients with toxic nodular goiter (48 years). It is of interest that 82 per cent of the patients with Graves' disease were less than 45 years of age, and over one-third of them were less than 30 years of age.

The ratio of females to males in the thyrotoxic series was 12:1. Among the patients with Graves' disease, females outnumbered males in a ratio of 15:1.

Treatment and Results

Treatment consisted of administration of one of the antithyroid drugs and iodine until the euthyroid state was established and then a radical subtotal thyroidectomy was done. In a few of the cases of recurrent thyrotoxicosis only a lobectomy was performed because the other lobe had been removed previously. Preoperative preparation was carried out on an outpatient basis, and the hospitalization period rarely exceeded one week. Bone marrow depression and other major drug

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complications were not observed.

There were no deaths.

In Table 2 are listed the temporary postoperative complications. Delayed or secondary bleeding requiring surgical intervention occurred in 2 per cent of the cases, and minor wound infection in 1.3 per cent. A temporary prophylactic tracheostomy was performed in 2 per cent of the cases. Transient hypoparathyroidism was observed in 2.6 per cent.

TABLE 2
INCIDENCE OF TEMPORARY COMPLICATIONS FOLLOWING THYROIDECTOMY
1949-58

Complication	No. of cases	Incidence (%)
Hemorrhage	3	2.0
Infection	2	1.3
Tracheostomy	3	2.0
Hypoparathyroidism	4	2.6

* All tracheostomies prophylactic and temporary.

Permanent complications are recorded in Table 3. Hypothyroidism was observed in 7 (4.7 per cent) of the cases, recurrent hyperthyroidism in 2 (1.3 per cent), and unilateral vocal cord paralysis in 1 (0.6 per cent). Many of the patients did not have postoperative laryngeal examination; therefore, the figure of 0.6 per cent incidence of unilateral vocal cord paralysis may not be a completely accurate one. It seems reasonable to assume that there will be additional cases of recurrent thyrotoxicosis as the period of follow-up is extended. The one case of permanent hypoparathyroidism (0.6 per cent) has been easily controlled by appropriate medication.

TABLE 3
INCIDENCE PERMANENT COMPLICATIONS FOLLOWING THYROIDECTOMY

Complications	No. of cases	Incidence (%)
Hypothyroidism	7	4.7
Hypoparathyroidism	1	0.6
Recurrent hyperthyroidism	2	1.3
Unilateral vocal cord paralysis	1	0.6

* Many patients did not have postoperative laryngeal examination.

Discussion

If given in adequate dosage over a sufficient period of time antithyroid drugs will control the severest degrees of thyrotoxicosis; and in most clinics these agents are employed routinely in the preoperative preparation of patients. As definitive therapy, however, the thiourea derivatives have proved disappointing, because of the unacceptably high recurrence rate following their discontinuation. Despite this and other limitations they are extremely valuable drugs and constitute the treatment of choice under unusual circumstances, such as when surgery or radioactive iodine is contraindicated or must be deferred. Their greatest value is in the preoperative preparation of toxic patients for operation.

It is rather generally agreed that subtotal thyroidectomy is the preferred treatment for most patients with toxic nodular goiter because of the possibility of associated malignancy and the low incidence of surgical complications in this group. Moreover, the toxic nodular goiter requires much larger doses of radioactive iodine than the toxic diffuse goiter, usually much more time is required for control of symptoms, and I^{131} therapy frequently produces no appreciable change in the size of the nodular goiter.

The question of thyroidectomy versus radioactive iodine for toxic diffuse goiter would be a less controversial one if there were more general agreement concerning the potential dangers of this type of irradiation. Thyroidectomy offers advantages of prompt elimination of the goiter, a high rate of cure, low incidence of complications, and relatively rapid return of the patient to normal. However, surgeons readily concede that a proper dose of radioactive iodine is equally effective and is rarely accompanied by significant immediate complications. While myxedema is much more common following radioactive iodine therapy, this is an undesirable but not disastrous residual since the control of hypothyroidism is relatively simple. We are aware of only one reported case of transient hypoparathyroidism,[17] and a single case of fatal thyroid crisis [14] due to radioactive iodine.

I^{131} is easily administered, and it so

effectively cures hyperthyroidism with so little immediate danger and discomfort to the patient, that it would be generally accepted as the preferred treatment in Graves' disease if it could be proved that the heavy I^{131} irradiation needed to cure the hyperthyroidism would not eventually result in malignant degeneration of the thyroid gland. While it is true that thousands of patients have received radioactive iodine, and some of them have been followed for eighteen to twenty years without a single reported instance of malignant degeneration of which we are aware, insufficient time has elapsed to permit a final evaluation of this possibility of carcinogenesis.

Radioactive iodine cures hyperthyroidism by radiation damage to thyroid tissue. High dosage of I^{131} produces acute thyroid epithelial injury, associated with necrosing vasculitis and thrombosis; and the late reaction is characterized by follicular atrophy and perifollicular fibrosis.[11] Necrosing irradiation in other tissues such as skin, bone, and mucous membrane has been followed after a latent period of many years by malignant degeneration of these tissues. In a recent paper entitled, "Malignant Irradiation for Benign Conditions," Cannon and associates[3] reported from the Massachusetts General Hospital 36 cases of carcinoma which had developed in skin which had previously been irradiated accidentally or for benign lesions. The interval between the irradiation exposure and the establishment of the diagnosis of cancer ranged from five to fifty years, and the average interval for the development of cancer was twenty-eight years.

Several recent reports[4, 5, 12, 16] suggest a possible correlation between irradiation and subsequent thyroid carcinoma. Duffy and Fitzgerald[5] reported that of 28 cases of thyroid cancer observed in children 9 had during infancy received x-ray therapy for an enlarged thymus. Clark[4] reported 15 cases of thyroid carcinoma in children, all of whom had been subjected to x-ray therapy in infancy and early childhood for benign lesions involving the head, neck, and chest. Although available data are entirely insufficient to establish a definite cause and effect relationship between x-ray therapy and subsequent development of cancer, there is an increasingly prevalent belief that there is considerable circumstantial evidence that therapeutic radiation in infants may be an etiological factor in thyroid carcinoma in childhood and adolescence. Just what bearing this may have on the matter of radioactive iodine therapy and its possible hazard of late carcinogenesis is uncertain; but the histologic changes observed in thyroid glands irradiated with I^{131} and x-rays have been reported as being qualitatively similar.[11]

It is because of our concern about the possibility of producing malignancy in the thyroid by radioactive iodine that we have largely reserved this radiation therapy for poor surgical risk cases without major pressure symptoms. We also prefer it for cases of recurrent hyperthyroidism, whether diffuse or nodular, because of the increased incidence of complications following secondary operation.

When hyperthyroidism is complicated by pregnancy therapeutic difficulties are not appreciably increased if it is remembered that (1) the administration of radioactive iodine is contraindicated, (2) the induction of hypothyroidism is to be avoided, and (3) thyroidectomy can be carried out during pregnancy without undue risk to mother or fetus.[1]

Radioactive iodine should not be administered to the pregnant woman because it traverses the placenta and is picked up by the fetal thyroid. Embryonic thyroid tissue has a remarkable avidity for radioactive iodine.[15] There have been reports of complete destruction of the fetal thyroid following administration of I^{131} to the mother.[15]

Antithyroid drugs also cross the placental barrier and may affect the fetal thyroid.[7, 8] Although a variety of fetal abnormalities have been ascribed to the maternal administration of the thiourea derivatives,[10] these complications have in most instances been mild and transitory.

Apparently the key to their prevention is the avoidance of hypothyroidism. The pregnant patient with thyrotoxicosis can be safely prepared for thyroidectomy by the administration of antithyroid drugs if induced hypothyroidism is prevented by avoidance of overdosage of these agents and the concomitant use of desiccated thyroid.[2]

The treatment of hyperthyroidism during pregnancy is controversial, and no one plan of therapy is suitable for all cases. We believe that most pregnant patients with thyrotoxicosis are best treated surgically after appropriate medical preparation with antithyroid drugs and/or iodine. The long-term use of antithyroid drugs intended as the only treatment seems unwise in most cases, because the incidence of fetal abnormalities appears to be directly related to the duration of the drug therapy.[9] Under certain circumstances, however, there may exist contraindications to operation and antithyroid drugs alone may be the treatment of choice for the duration of the pregnancy. Following delivery, women who are not suitable candidates for surgery can be treated with radioactive iodine. It is well to remember, however, that I^{131} and antithyroid drugs are excreted in breast milk in sufficient amounts to be potentially harmful to the nursing infant's thyroid.[15, 18]

The treatment of hyperthyroidism in children is also controversial. It is almost always of the toxic diffuse variety, so the danger of possible associated malignancy is rarely a matter of concern. Graves' disease during childhood, if adequately treated, does not alter adolescent development.[6, 13] It is our impression that postoperative hypothyroidism, hypoparathyroidism, laryngeal edema, recurrent laryngeal nerve injury, keloid formation in the operative scar, and recurrent hyperthyroidism are more likely to occur in children than in adults. We believe that most thyrotoxic children can be safely carried on antithyroid drugs until after adolescence when thyroidectomy can be performed with more satisfactory results. We regard youth as a relative contraindication to radioactive iodine therapy.

Summary and Conclusions

During the past decade 149 thyrotoxic patients have been treated by thyroidectomy at the Mahorner Clinic. There were no deaths.

The incidence of permanent postoperative complications were: Hypothyroidism 4.7 per cent, hypoparathyroidism 0.6 per cent, unilateral vocal cord paralysis 0.6 per cent, and recurrent hyperthyroidism 1.3 per cent.

As definitive therapy for thyrotoxicosis the antithyroid drugs have proved disappointing because of the high recurrence rate following their discontinuation.

Most patients with toxic nodular goiter are best treated by subtotal thyroidectomy.

There is some circumstantial evidence that therapeutic radiation in infants may be an etiologic factor in thyroid carcinoma of childhood and adolescence.

Radioactive iodine is highly effective in the treatment of toxic diffuse goiter. It cures hyperthyroidism by radiation injury to thyroid tissue. Necrosing irradiation in certain other tissues may be followed after a latent period of many years by malignant degeneration of these tissues. Because of our concern over the possibility of producing malignancy of the thyroid gland by radioactive iodine, we have reserved this radiation therapy for cases of recurrent hyperthyroidism and for poor surgical risk cases.

Radioactive iodine should not be given to the pregnant woman because it traverses the placenta and may destroy the fetal thyroid. Antithyroid drugs also cross the placental barrier and may affect adversely the fetal thyroid, and when possible their long-term use should be avoided. Thyroidectomy can be carried out during pregnancy without undue risk to mother or fetus; and we believe that most pregnant patients with thyrotoxicosis are best treated surgically after rapid preparation with antithyroid drugs.

Hyperthyroidism in children is prob-

ably best managed medically with antithyroid drugs. If operation becomes necessary usually it can be deferred until after adolescence. Youth is a relative contraindication to radioactive iodine therapy.

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Annual Circular of the Medical Department of the University of Louisiana—Session of 1848-49

"In practical surgery, as in medicine, the advantages of this school are pre-eminent. We are satisfied, from the best authority and personal observation that the professors of no school in America are connected with and enjoy the unlimited use of an institution, in which there are so many interesting cases requiring surgical and medical aid, and the use of the knife, as are to be found in the New Orleans Charity Hospital. This great receptacle for thousands of the afflicted of every clime, supported bountifully by the contributions of the State, where there are no paupers but strangers, and attended gratuitously by the members of the profession who are the high priests of philanthropy throughout the civilized world, is opened wide to every aspirant who seeks knowledge among its tenants."

New Orleans M. & S. J. 5:347 (November) 1848.

A New Topical Nasal Decongestant

• The authors report on their use of Otrivin, an imidazoline derivative, on 290 patients with various upper respiratory infections.

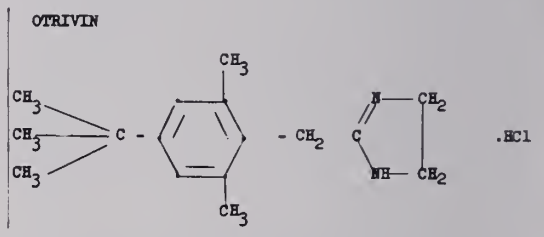
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OUR E.N.T. Clinic at Charity Hospital handles about 200 cases a week of various upper respiratory infections in both children and adults. It would be much to our advantage and to this large number of patients if we could obtain a safe and physiological, acceptable nasal vasoconstrictor which would give effective prolonged relief without the usual side effects of most of these compounds. Many of the nasal vasoconstrictors in use today cause either stimulation, drowsiness, rebound congestion, or palpitation, etc. Many of these agents are frankly abused and cause habituation or damage to the nasal mucosa. Others are too dangerous to use in children for fear of overdosage with an accompanying syncope, pallor, or bradycardia.

Recently, a new vasoconstrictor, Otrivin,† was introduced to us for evaluation. Various reports [1-6] noted that Otrivin had an exceedingly good decongestive effect with little or no side effects and a high safety factor.

Clinical trials involving over 6000 cases showed the drug was effective in a variety of upper respiratory infections including the common cold, vasomotor rhinitis, as well as in hay fever and other allergic rhinitides. It was well tolerated locally and systemically in infants and children as well as in adults.

Otrivin is an imidazoline derivative (related chemically to Privine, a well-known, widely used vasoconstrictor). Its structural formula is given in Figure 1.



Number of Patients and Dosage

Our study involved 290 patients (infants, children and adults) with various upper respiratory infections, and included the use of various strengths of the plain Otrivin, while the combination of Otrivin and Ultracortenol and Neomycin was reserved for those patients who presented superimposed infections or allergic states. No attempt was made to select the patients as to age or sex.

Otrivin 0.025 per cent, 0.05 per cent, and 0.1 per cent was used b.i.d. or t.i.d. as drops or in spray form. The triple formulation was used only as a spray.

Early in the course of the study, it was found that Otrivin 0.05 per cent was safe, and therapeutically more effective than 0.025 per cent, and thereafter, use of this weaker concentration was discontinued.

Complete records including diagnosis, dosages, duration of therapy, results, local and/or systemic side effects were maintained on all 290 patients.

Fifty patients were followed with blood and urine examinations, and no abnormal findings attributable to the use of Otrivin were observed. Blood pressure studies on normotensive patients (100)

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† OTRIVIN was made available for research through the Clinical Investigation Division of Ciba Pharmaceutical Products, Inc., Summit, New Jersey.

and hypertensive patients (6) demonstrated that no adverse effects on blood pressure were to be expected following the use of Otrivin.

An illustration of the record form used appears in Table 1.

Results

From our results, it would appear that Otrivin is an excellent and effective nasal vasoconstrictor. Of the entire total of 290 patients on all dosage forms of Otrivin, 250 had good to excellent results, 26 fair, and only 14 poor. Six of the poor results occurred in those cases of children treated with 0.025 per cent solution, the use of which we discontinued after we learned of the superiority of Otrivin 0.05 per cent, even in the very young patient. Best results were obtained with the higher concentration solution, 0.1 per cent Otrivin. I found it preferable to use the combination of Otrivin - Ultracortenol - Neomycin in the infectious or allergic states. In only 4 of the entire series of patients were side effects encountered.

Observations and Conclusions

Otrivin seems to be well tolerated by adults, children, and even infants, causing no stimulation or drowsiness as other nasal vasoconstrictors do. Side effects with Otrivin were practically nil. As noted above, in only 4 of the 290 cases, were there any side reactions, i.e., one case each of palpitations, insomnia, sneezing with burning, and rebound phenomenon (secondary vasodilatation). Blood pressure was not significantly affected by Otrivin —not even in 6 cases of hypertensive cardiovascular disease.

In comparing Otrivin with other nose drops and nasal sprays, the patients claim that Otrivin is more gradual in onset, more potent in action, of longer duration, and less irritating. Because of its longer duration, and since it causes practically no rebound, Otrivin need be administered only two to three times a day, certainly no more than four times a day except perhaps in a few cases.

As a result of this study, it is our opinion that Otrivin fulfills the criteria for a safe and physiologically acceptable nasal vasoconstrictor:

1. Good vasoconstrictor response with prolonged effect

TABLE I

Patient's Initials or Code No.	Sex and Age	Diagnosis	Solution Strength and Dosage (Please note strength used in each case)	Duration of Therapy	Therapeutic Results	Rebound	Other local side effects	Systemic effects (mark yes or no)						
								Palpitation	Insomnia	Drowsiness	Excitement	Mental Blood Pressure	Effect on	Light Headed Feeling
C.M.	28 F	Nasopharyngitis	.1% 3 gtts BID	1 wk	Good	No	None	No	No	No	No	None		No
C.L.	32 M	Bilateral Frontal Sinusitis	.1% 3 gtts TID	2 wks	Good	No	None	No	No	No	No	None		No
D.M.	18 M	Allergic Rhinitis	.1% 3 gtts TID	1 wk	Excellent	No	None	No	No	No	No	None		No
R.J.	40 M	Deviated Nasal Septum with Nasal Obstruction	.1% 3 gtts BID	1 wk	Excellent	No	None	No	No	No	No	None		No
R.W.	46 M	Chronic Adhesive Otitis Media on left Retracted Right drum	.1% 3 gtts TID	2 wks	Excellent	No	None	No	No	No	No	None		No

2. Has as few systemic side effects as possible
3. Has no local deleterious, toxic or irritating effect on the mucosa, etc.
4. Very seldom causes secondary vasodilatation with subsequent rebound obstruction
5. Appears to be safe to use in certain systemic diseases (6 cases of HCVD).

In our experience, Otrivin is a welcome addition to the group of products presently available for use in the treatment of the more common nasal disorders.

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Causes of Cholera in New Orleans 1848-1849

It has been attempted to prove that the disease called *cholera* which prevails in this city is of *asiatic* origin, and was imported into this city; but if we can point out the causes that gave rise to the disease, its foreign origin must be abandoned. * * * For some days prior to the appearance of the first case of cholera, the rain fell almost daily—the atmosphere was humid, murky, close, and oppressive,—the streets, gutters, etc. were surcharged with offal and filth of every kind—abundant sources—numerous foci for the generation and spread of a species of malaria or miasmata, which operating upon persons, already debilitated and relaxed, by the warm, damp weather, soon manifested its poisonous influence upon the system by acting upon an irritable gastro-enteric mucous surface, producing diarrhoea, vomiting, cramps, collapse, and death. All this time the wind was from the South; at intervals during the day an almost tropical sun beamed upon us,—moist and murky vapor, born of the stagnant pools and filthy sewers that surround us, and charged with pestilential matters, enveloped the city and hung like a funeral pall about us. The thermometer, although in the middle of December, rose to 75 and even as high as 84, in the shade. It may be well to remark that this state of things was possibly aggravated by the exposure of a large quantity of mud and dirt to the action of the sun, caused by excavating the foundation for our new custom house, near the levee.

New Orleans M. & S. J. 5:539, (January) 1849.

The Management of Upper Gastrointestinal Tract Hemorrhage: A Reappraisal

• Does the problem of the bleeding peptic ulcer call for conservative medical treatment or surgical measures? What are the mortality rates in the different modes of treatment? What are the factors which determine the choice of treatment?

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Introduction

THE problem of the management of patients with massive bleeding of the upper gastrointestinal tract has always been a major one. A number of years ago we were convinced that if all serious bleeders of the upper gastrointestinal tract would consult surgeons first, instead of passing through the hands of medical men their outlook would be much improved. However, with the passing of time, we have been impressed by our high mortality rate in the operative management of these cases, and we have also noted that the mortality rate has been high in similar cases managed by our colleagues in two rather large community hospitals in which we work. It is because of this impression that we are encouraged to investigate the cases available and the current literature on this problem. The lessons learned furnish the material for this article.

Definition

A massive hemorrhage is defined as one in which the patient has lost approximately one-half of his blood volume by gross bleeding in a short period of time. The hematocrit on admission is usually between 22 and 25, and the hemoglobin between 7 and 10 grams. It must be remembered that these patients are dehydrated from vomiting or diarrhea and the blood loss is greater than indicated by these simple laboratory examinations.

Mortality Rate

In a limited review of the literature on this subject, it was noted that the mortality rate in all centers was approximately the same, in that it varied according to the type of patient and the pathology presented rather than to the method of management. For instance, Karlson, et al.,[3] presented the results of three methods of therapy for massive gastrointestinal hemorrhage.

1. The nonoperative group, which was treated by bed rest, gelatin mixture every two hours by mouth; transfusions were given only for evidence of air hunger, cerebral anoxia, or blood pressure drop below 80, and then, only in small 250 cc. amounts.

2. The second group was the immediate operative group in which a three-fourths gastrectomy was done as soon as the patient was prepared, usually within twelve hours.

3. The third group was the selective group which consisted of the patients that quit bleeding, but then were operated upon electively because of some indication such as, above 50 years of age, arteriosclerosis, previous massive hemorrhage.

The majority of patients in the nonoperative group died from exsanguination. The majority of those in the operative

* Presented at the Seventy-ninth Annual Meeting of the Louisiana State Medical Society, in New Orleans, May 6, 1959.

group died of postoperative complications. The mortality rate was approximately 14 per cent in each of the groups. Although the operative mortality for a single episode of massive bleeding was identical in this study to the nonoperative, the mortality may be lowered in the operative group because they are no longer subject to further episodes of massive bleeding.

Stewart, et al.,[4] reported a mortality rate of 10.7 per cent in the operative group and 21.4 per cent in the nonoperative group, which was comprised of those that refused surgery. Their method was immediate blood replacement and gastric resection for acute gastroduodenal bleeding due to peptic ulcer. Welch [1] reported from the Massachusetts General Hospital that the interval operation is probably the safest method. Under the age of 70, the mortality rate is 6 per cent. Above the age of 70, the mortality rate is 30 per cent. It is of further interest to note that in an article published in 1946, Gordon-Taylor [6] reported an over-all mortality of 17 per cent in the operative management of upper gastrointestinal tract bleeding from ulceration. These cases were operated upon some twenty years ago. They were done for the most part under local analgesia and consisted of ligation or over-sewing of the bleeding area. It is interesting to note that the mortality rate is approximately the same as the present day figures. In studying any figures of upper gastrointestinal tract bleeding one has to separate the hemorrhages that are secondary to the esophageal varices with portal cirrhosis from other causes.

Etiology

As to the etiology of upper gastrointestinal hemorrhage according to Allen,[12] 85 per cent are due to peptic ulcer, 5 to 10 per cent are due to esophageal varices, and 5 to 10 per cent are due to miscellaneous causes, which consist of gastritis (atrophic, hypertrophic, and acute erosive), esophagitis, venous telangiectasis of the gastric mucosa, benign and malignant tumors, blood dyscrasia, and other rare causes.[2] The causes found in our cases are listed in Table 1.

TABLE 1
CAUSES

	Per Cent
Esophageal varices	3
Gastric ulcer	21
Duodenal ulcer	72
Marginal ulcer	1
Negative x-ray findings	3

Age Distribution

In our material, 99 cases, there were 81 males and 18 females. The age varied from 18 years to 87 years. The average age was 48, and distribution is as given in Table 2.

TABLE 2
AGES

Years	Cases
18 to 20	3
21 to 30	9
31 to 40	18
41 to 50	30
51 to 60	21
61 to 70	9
71 to 80	6
81 to 90	3

Pathology

As to the pathology of bleeding ulcers, it is agreed generally that the posterior wall duodenal ulcers and lesser curvature gastric ulcers bleed more frequently than do other locations. Also, it is true that chronic penetrating ulcers tend to bleed more frequently. In the old age group it is noted that the resiliency of the blood vessels is lost, and that the arteriosclerotic vessels will have less tendency to retract and clot and, therefore, continue to bleed. Scarring in the base of an ulcer predisposes to continued bleeding. In 15 to 20 per cent of patients who have serious upper gastrointestinal tract bleeding it will be due to other causes already mentioned. We cannot recall having seen massive upper gastrointestinal tract hemorrhage from carcinoma of the stomach, but this has been reported in the literature. There are many rarer pathological processes which account for serious bleeding, but these comprise individual problems and will not be discussed here.

Diagnostic Management in Massive Upper Gastrointestinal Tract Hemorrhage

Some patients present a history of peptic ulcer, which may or may not have been confirmed by x-rays. The history gives some indication of whether the patient possibly has cirrhosis and presents the possibilities of esophageal varices, i. e., in alcoholics. It is to be remembered that both esophageal varices and peptic ulcer may exist, and also, that in alcoholics peptic ulcer is more common than cirrhosis. It is very important to note associated pathology in the history.

In physical examination, determine principally whether the patient is or is not in shock, or whether he is bordering on shock. The abdominal findings may help, in that definite epigastric tenderness would point toward peptic ulceration. Any palpable mass would be suspected in explanation of the etiology of the bleeding. An enlarged liver and spider angiomata of the skin would cause the examiner to suspect cirrhosis.

Laboratory studies necessary are hemoglobin and hematocrit determinations, prothrombin time, bleeding and coagulation time, platelet count, and G. I. series. We have felt that a G. I. series is often helpful and has not been detrimental in any of our cases. Oftentimes an obvious lesion is noted on x-ray, which is extremely helpful in the management of the case. Further, it is our belief that one of the surest ways to determine esophageal varices is on barium swallow, when done by a competent radiologist.

It must be remembered that a negative G. I. series is not a contraindication to contemplated operation and does not rule out peptic ulceration when done under these circumstances. The stomach may be filled with blood, the ulcer crater obscured by clot, and often the patient is unable to cooperate fully under the circumstances. However, we do not believe it dangerous for the radiologist to manipulate the patient at the time of examination, and we have not observed that palpation on the radiologist's part has increased bleeding, or caused it to recur. We believe that the G. I. series should be done when the patient has been transfused and is apparently out of shock. This should be done early in the management of the case.

We have not used esophagoscopy in the diagnosis or treatment of esophageal lesions, or gastroscopy in the diagnosis of the gastric lesions.

Management of Cases

The effectiveness of any program is judged by the combined mortality rate of both medically and surgically treated patients. In our collective cases, those treated medically had a 6 per cent mortality. Those treated surgically had a 40 per cent mortality. It must be pointed out that in this series of cases the only patients operated upon were those in whom exsanguination was feared if they were not subjected to surgery.

We had no control series and many of the patients who were initially treated medically were operated upon electively or had a recurrence of bleeding and were operated upon at that time. Although we know of some, we do not have exact figures on the number that expired on subsequent admissions regardless of the method of treatment.

As to the management, the primary consideration is to distinguish the bleeding ulcers and the few miscellaneous causes from those cases bleeding from esophageal varices due to portal cirrhosis. If the diagnosis is concluded to be esophageal varices, then a Blakemore-Sengtaken tube is passed and the bleeding controlled by tamponade. And if desperate, a transesophageal suture ligation of varices is the procedure of choice. Supportive measures and blood replacement are accomplished. After bleeding has ceased, the patient is thoroughly evaluated, particularly regarding liver function, and if possible a porto-caval shunt is done as an elective procedure.

We have no experience with the other procedures, namely:

1. Splenectomy and end-to-side anastomies of the splenic vein to the renal vein.

2. Umbilical vein to the vena cava.

3. Portal vein to the right renal vein.

4. Inferior or superior mesenteric vein to the vena cava.

5. Transposition of the spleen above the diaphragm at the time of ligation of esophageal varices.[10]

If we feel that the patient is bleeding from the stomach or duodenum, a No. 18 or 20 Levin tube is inserted. Although gastric tubes are inefficient at times due to occlusion by clots, we believe that it gives information as to the source of bleeding. Vomiting is reduced and if emergency surgery is necessary, the stomach and upper gastrointestinal tract are better prepared for surgery. The amount and the rate of blood given depend on the initial hemoglobin and hematocrit, blood pressure, pulse and the general condition of the patient. Medication is judged further by laboratory results. Prothrombin deficiency, if present, is corrected by administration of Vitamin K.

In regard to blood replacements, patients who are given 1500 to 2000 cc. of blood and still show evidence of unstable blood pressure bordering on shock, and whose blood picture has not responded, are considered for immediate surgery. It must be remembered that the results of red blood cell counts, hemoglobin determination and hematocrit of bleeding patients are likely to disclose too little bleeding rather than too much and the amounts of blood given should be determined accordingly. In Stewart's [5] management by immediate blood replacement and immediate operation the average amount of blood given at the time was 3900 cc. It is generally accepted that 500 cc. of whole blood should raise the hemoglobin 1.5 grams and the hematocrit 3 points.

If there is evidence that the patient's bleeding is ceasing, then he should be followed carefully by serial hemoglobin and hematocrits every six to twelve hours as indicated. Once it is assured that bleeding has ceased the patient is further studied, and either treated medically or operated upon electively.

Factors to Consider in the Selection of the Patient for Elective Surgery

1. *Age:* Patients over 45 tolerate blood loss less well due to the altered resiliency of the vascular bed. A local factor is that hemostatic benefits attributed to constriction of a severed artery decrease with age.

2. *Duration of Ulcer History:* The wall of a bleeding vessel that is embedded in scar tissue or thickened is less likely to clot spontaneously.

3. *Recurrence of bleeding* is more likely in gastric than duodenal ulcers. The vessels are larger and the gastric ulcer is associated with gastric stasis, which stimulates peptic digestion of the clots.

4. *Stenosed duodenal ulcer* on the basis that pyloric obstruction is unfavorable to healing and because of the difficulty that pyloric stenosis imposes on a sound feeding program.

5. *Severe hemorrhage in the older age group* leads to more cardiovascular complications than in the younger people.

6. Patients with a *history of previous massive gastrointestinal hemorrhage* should be considered for elective operation.

As to the surgical procedure, except on rare occasions in the very aged or in moribund patients who are seen late where the local lesion is excised or bleeding point transfixed, we believe in the practice that the standard 75 per cent subtotal gastric resection is the operation of choice. When no bleeding point is found, but there is strong evidence that the bleeding has been from the stomach or duodenum, a subtotal gastrectomy is done. In regard to rationale of vagotomy and pyloroplasty in the management of bleeding duodenal ulcer,[9] we have had no experience.

Discussion

From our present knowledge it appears that each case has to be individualized, but that the majority of upper gastrointestinal tract bleeders will cease bleeding if given an adequate trial. There are a minority of cases that will exsanguinate, however, and it is vital that these be

determined before their blood volume is depleted and before it has been necessary to replace their blood volume with Blood Bank Blood.

The mortality rate of the urgent cases is extremely high and it is in direct proportion to the serious complications that arise. One of the most serious and oftentimes fatal complications in our personal cases has been re-bleeding in the postoperative period. This has proved to be hemorrhagic gastritis, and it is extremely difficult to deal with as can be noted from the following short abstracts:

Case Reports

Case No. 1.—A 76 year old white male was admitted November 20, 1957, with the diagnosis of carcinoma of the sigmoid colon, and prepared for operation. Upon G. I. series there was evidence of a small gastric ulcer. The patient was also known to have bilateral bronchiectasis and to have consumed large quantities of alcohol daily for many years.

On November 25, 1957, with spinal analgesia the carcinoma of the rectosigmoid was excised by means of an anterior resection, and end-to-end anastomies done. No evidence of spread was noted. There was also a small aneurysmal dilatation of the terminal aorta. The patient received 500 cc. of blood during the procedure. On the sixth postoperative day, it was necessary to do a subtotal gastrectomy for bleeding ulcer on the lesser curvature of the stomach, because of massive upper gastrointestinal tract hemorrhage. The patient took the operation well, but at the end of the procedure when the anesthetist was aspirating the intertracheal tube, the patient went into apnea, and it was necessary to breathe for him for approximately three hours. The patient continued to have difficulty in breathing, and was unable to rid himself of the thick purulent bronchial secretions. It was necessary to do a tracheotomy on December 5, 1957.

The patient did well again until December 10, 1957, the tenth postoperative day from the gastrectomy, at which time he began to have hematemesis, and continuous tarry stools, developed acute pulmonary edema and expired.

Case No. 2.—A 32 year old white male developed bloody stools and weakness. He had been in the hospital one year previously at which time he had bled down to 8 grams hemoglobin, and hematocrit of 20. However, he responded to blood replacement immediately and on G. I. series there was evidence only of gastritis and duodenitis. The patient made a good recovery and because of his age and short history, he was treated medically.

On the second admission there was evidence of massive upper gastrointestinal tract hemorrhage. On the morning of his third hospital day while receiving his eighth unit of blood, he was brought to the operating room, apparently still bordering on shock, and a subtotal gastric resection was done.

The pathological report showed a chronic duodenal ulcer.

He received 2000 cc. of blood during operation and immediately postoperatively. On the fourth postoperative day, because of continued evidence of upper gastrointestinal bleeding it was necessary to re-explore the patient. At this time it became necessary to extend the incision into a thoraco-abdominal one because as far as one could see at the cardiac end of the stomach there was still considerable bleeding. The esophagus was opened, but no varices or definite bleeding points were noted. Numerous bleeding points in the stomach were transfixed and it was assumed that the patient had a hemorrhagic gastritis. The patient received 2500 cc. of blood during and immediately postoperatively.

On the third postoperative day, the patient again showed evidence of upper gastrointestinal tract hemorrhage, at which time a Blakemore-Sengstaken tube was inserted, and by inflating the gastric balloon, the bleeding ceased over a period of two days. However, the patient developed a fistula at the gastrojejunostomy anastomosis and with partial deshiscence of his wound it subsequently became a gastrocutaneous fistula.

On March 12, 1958, this was repaired, and the patient did fairly well postoperatively although he ran a severe febrile course for several days. On March 25, 1958, he began to have scanty urine with evidence of renal shut-down. On March 27, 1958, during the night after having walked to the bathroom, he had severe pain in his chest, and expired from a massive pulmonary embolus.

Comments

In the above two abstracts it can be noted that it is the re-bleeding that led to the extreme morbidity and consequent fatal complications. In our personal series we know of five such cases where following intended definite surgery for gastrointestinal bleeding, the patient began to re-bleed and it proved to be due to a hemorrhagic gastritis in which there are many small bleeding points. In these cases, it is almost necessary to do a total gastrectomy to excise all of the bleeding points. Furthermore, because of the enormous amounts of blood necessary to maintain the complicated bleeders something

happens to their clotting mechanism and a vicious cycle develops. To combat this we have used calcium, fibrinogen, fresh blood transfusions in place of Blood Bank Blood, Premarin intravenously and Adrenosem.

Summary

1. In management of patients with massive upper gastrointestinal bleeding close cooperation between internist, radiologist and surgeon is mandatory. Diagnosis should be reached as early as possible. No complications have resulted from early x-ray examination.

2. Ninety-nine cases are reviewed. Management has been conservative, with surgery only in those cases in which it was felt that the patient would exsanguinate.

3. Operative procedure of choice is subtotal gastrectomy.

4. Over-all mortality rate in the entire group is 10 per cent. In the patients subjected to surgery, the mortality rate is 40 per cent. In the operated cases there was a period of one to seven days with an average of three days from the time of admission to operation. It is felt that the mortality rate could be reduced if surgical intervention were done earlier or as an elective procedure.

5. In the surgical management of these cases there are many complications. The two most devastating ones are: (1) rebleeding, and (b) failure of anastomosis and wounds to heal. Is this due to replacement of one's normal blood with new blood?

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Discussion

Dr. Sidney G. Mack (Baton Rouge): It is encouraging to see the trend to return to a more conservative regime in the management of massive upper gastrointestinal bleeding. It is also noteworthy that the surgeons realize there is a means of stopping hemorrhage besides the use of a scalpel and hemostat.

Any conservative regime should aim to keep the patient's blood volume normal or near normal, nutrition up, electrolytes and fluids in balance, correction of any vitamin K deficiency, adequate treatment or correction of any preexisting or concomitant disease situation, and removal of old blood from the bowel as soon as it is feasible.

From a diagnostic standpoint, I feel that most investigative procedures in the average case can and should be delayed until bleeding stops. With a good history from the patient, his family, previous physicians who have treated him, and a thorough physical examination, the diagnosis can be pretty well made. Certainly, if bleeding continues and surgical intervention seems likely, and if you have no real clue as to the source of bleeding, then certain procedures are definitely indicated. Perhaps the simplest and most informative would be an esophagram and a G. I. series. If this procedure be uninformative, consider esophagoscopy and gastroscopy. A liver profile may add to a cirrhotic history to substantiate an impression of bleeding esophageal varices. There are reports in the literature of the use of a double lumen balloon equipped with tube to aid in differentiating esophageal from stomach and duodenal bleeding. I have had no experience with it. Sometimes everything is negative, and it is still necessary to submit the patient to surgery. We then rely solely on surgical skill, gastrotomy, and even blind resection for survival of the patient.

When should the patient be submitted to surgery? In my opinion, each case must be individualized. No set rules, such as after forty-eight hours of hemorrhage, or 2500 to 3000 cc. of transfused blood, can be used as a sole criterion.

These, of course, are to be considered along with the patient's age, presumptive or proven diagnosis, rapidity and recurrence of bleeding, concomitant disease situations, availability of adequate laboratory and surgical personnel and what seems to have had best results for the attending physician in the past. The patients should be watched diligently and kept in good nutrition, fluid and electrolyte balance, evaluated for other pathology, Vitamin K deficiency corrected, before turning them over to the surgeon. In the average case of massive upper gastrointestinal bleeding which responds to a conservative regime, and the diagnosis is proven to be peptic ulcer, then certainly interval subtotal gastric resection is the treatment of choice. I am of the opinion that perhaps most of the peptic ulcer problems with massive hemorrhage should undergo an interval gastrectomy.

One alarming complication that deserves special comment is the bleeding that sometimes follows massive blood transfusions. Bleeding from wounds and petechiae are common findings. Analysis of the hemostatic mechanism in these cases has shown thrombocytopenia with corresponding hematological abnormalities. The thrombocytopenia may be transitory. Some cases show increased fibrinolytic activity of the serum; others show reduced antihemophilic globulins; and still others, reduced labile factor activity of the plasma. The mechanism here is probably increased circulating anticoagulant factors and the dilution factor of nonviable platelets. Most of these intricate diagnostic facilities are not available in the average hospital laboratory. Some of these cases can perhaps be saved by using compatible fresh blood instead of stored blood.

In conclusion, I would like to reiterate that massive upper gastrointestinal hemorrhage represents a problem which is a major challenge to the best diagnostic and therapeutic efforts of the internist, the surgeon, and the radiologist. If we are to better our statistics, then we must improve our conservative management, diagnosis, preoperative evaluation, surgical techniques, postoperative care, and perhaps increase our incidence of interval gastrectomies.



Cholera in 1848-1849

Up to the time of the appearance of cholera in our city, the sanitary condition of New Orleans was most excellent, notwithstanding the rapid and great accession to our population since the commencement of fall. * * *

Until reports of cases of cholera were disseminated by some of the prints of the day, our city gave promise of a brilliant season to those devoted to pleasure and amusement, and to the man of business, a rich reward for his toils and his enterprize.

Since the 20th of December, we have seen several cases of small-pox and heard of a number of others, all very violent in their character, notwithstanding previous vaccination had been practised in several instances.

About the 22d of December, 1848, the Board of Health declared the cholera to be epidemic. * * * the deaths from the disease, daily at this time, being about an average of twelve.

The greatest number of deaths for the 24 hours reached 114 of which 92 were cholera. This was about the 28th of December, and soon after this date it began slowly to decline.

It will be seen that we are much behind our time in the publication of the work. The epidemic must be our apology since it frightened even the printer's devil from his post, and but few could be found to carry on the Journal. The delay then was unavoidable, and we beg the kind indulgence of our friends for this seeming negligence.

New Orleans M. & S. J., 5:537 (January) 1849.

Intestinal Helminthiases and Their Treatment* †

• The article is not only a practical guide to therapy, but a very thorough exposition of the intestinal helminthiases present in tropical and subtropical climates.

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THE introduction of piperazine, cyanine and bephenium compounds as anthelmintic agents has resulted in significant improvement in the treatment for intestinal helminthiases. The influence of these recent advances on chemotherapy is reflected in the methods of treatment for some of the common intestinal helminthic infections which are described below. A brief summary of the salient biological and clinical information about these helminthiases is presented to provide the reader with material which has a bearing on the objective of treatment and the evaluation of therapeutic results as they are influenced by the bionomics of the parasites. Since this is intended to be a practical guide to therapy, rather than a comprehensive review of the literature on anthelmintics, references are not included. Table 1 shows the drug of choice for treatment for each helminthic infection when only one species of parasite is involved.

TABLE 1
TREATMENT FOR INFECTIONS BY SINGLE SPECIES OF INTESTINAL HELMINTHS

Infection	Drug of Choice
Ascariasis	Piperazine citrate
Enterobiasis	Piperazine citrate
Trichuriasis	Dithiazanine iodide
Strongyloidiasis	Dithiazanine iodide
Hookworm	Tetrachloroethylene *or* Bephenium hydroxynaphthoate
Large tapeworms (*Taenia saginata, T. solium* or *D. latum*)	Quinacrine hydrochloride
Dwarf tapeworm (*Hymenolepis nana*)	Hexylresorcinol

Ascariasis

Bionomics and clinical manifestations. The normal habitat of *Ascaris lumbricoides* adults is the lumen of the small intestine. The presence of *A. lumbricoides* in some persons may be related etiologically to abdominal pain, frequently colicky in nature and referable to the epigastrium or umbilical area. Of more serious import are the complications of ascariasis, such as partial or complete intestinal obstruction, perforation of the intestine and migration of adult worms to extra-intestinal sites.

Female ascarids have tremendous egg-laying capacity. Very resistant immature eggs are passed in the stool. Under favorable environmental conditions, they become embryonated and infective in the soil within two weeks. Children frequently acquire the infection through ingestion of the eggs by geophagia or from soil-contaminated hands. Uncooked vegetables which have been fertilized with human excreta also provide a source of infection. The larvae hatch from the eggs in the small intestine. They enter the portal circulation and are carried to the liver, thence to the heart and lungs, where they grow and moult. If larvae are present in sufficient numbers, they may produce a clinically evident pneumonitis; however, due to difficulty in proof of etiology, this condition is rarely diagnosed specifically as *Ascaris* pneumonitis. The parasites ascend the respiratory tract, pass down the esophagus and through the

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stomach for the second time, initially as embryonated eggs and now as free larvae. The adults mature in the small bowel. Female ascarids ordinarily reach a length of 20 to 35 or more cm. and are 3 to 6 mm. in diameter. Male worms measure about 15 to 30 cm. in length and 2 to 4 mm. in diameter. The prepatent period, *i.e.*, from time of inoculation to the appearance of the diagnostic eggs in the stools, is approximately two to two and one half months. Spontaneous loss of infection occurs. The longevity of a single infection is about eight months to one year. Adult worms frequently are passed *per anum* and occasionally *per os* and *nares* in untreated patients.

Effective prophylaxis against ascariasis, as well as trichuriasis, consists essentially of sanitary disposal of human excreta by both children and adults, prevention of ingestion of infested soil by children, and the avoidance of eating uncooked vegetables in areas where nightsoil is used as fertilizer. Parasitized children who fail to use sanitary facilities contaminate yards with their excrement and thus "seed" the top soil with *Ascaris* eggs. Children's play and hygiene should be supervised by the parent and by older children in the family with the objectives of preventing (1) defecation in the yards, (2) geophagia and (3) placing dirt-soiled hands in the mouth. The hands should be washed prior to eating, both during play and before meals. Lawns and paved areas are preferable to open soil as play sites. Top soil may be turned under to place the eggs out of reach of children.

Treatment for uncomplicated intestinal ascariasis. Piperazine citrate in syrup form (*e.g.*, Syrup of Antepar) is an effective and well tolerated therapeutic for infections with this large roundworm. Each ml. has the equivalent of 100 mg. of piperazine hexahydrate. One teaspoonful contains about 500 mg. of the drug. The preparation of piperazine citrate in a palatable syrup facilitates the treatment of infants and children in whom this helminthiasis is common and of those who cannot swallow tablets.

An effective schedule for the treatment of patients with uncomplicated intestinal ascariasis is as follows: an initial dose of 70 mg. (hexahydrate equivalent) of piperazine citrate per pound of body weight, with a maximum of 3 gm. (30 ml. of syrup) ; the treatment is repeated, with another single dose, one week later. This regimen usually results in complete elimination of ascarids in almost all cases. A stool examination should be done one or two weeks after the second dose.

Fasting prior to treatment and purgation after therapy are unnecessary. There is no hazard of local tissue damage from the drug. Since the ascarids usually are alive when passed after treatment, the possibility of absorption of disintegration products of the parasites is minimized. Piperazine salts induce a state of paralysis in the worms which reduces the hazard of migration. It causes the elimination of both mature and immature ascarids from the intestine.

The vast experience of many investigators of treating patients for ascariasis and enterobiasis with a variety of dosages and regimes of piperazine citrate indicates that this anthelmintic is safe and that side-effects are infrequent. Some of the *occasional or rare* reactions to piperazine have been nausea, vomiting, headache, abdominal cramps, urticaria, vertigo, tremor, incoordination, muscular weakness, dropping of articles, mild diarrhea and lethargy.

No significant difference in the therapeutic efficacy of piperazine citrate, adipate or phosphate against *Ascaris lumbricoides* in humans has been demonstrated. Also, there is no essential difference in the systemic absorption of these salts in man.

Treatment for partial intestinal obstruction due to ascariasis. Conservative measures for the management of partial intestinal obstruction supplemented by the administration of piperazine citrate syrup have obviated the necessity of surgery in numerous patients with this complication of ascariasis. The measures outlined below apply only to partial and not to com-

plete intestinal obstruction due to *A. lumbricoides*.

1. Parenteral fluids are administered as required.

2. Wangensteen drainage with a Levin tube is employed for abdominal decompression to relieve distention and vomiting, if necessary.

3. Physiological saline enemas are given promptly to remove any worms which may have collected in the large bowel due to decreased peristalsis; however, the obstruction is in the small intestine where the ascarids normally live.

4. After four to six hours of nasogastric suction, the vomiting usually abates and piperazine citrate syrup is instilled by gravity through the drainage tube. Suction is discontinued during and for one to two hours after administration of the drug. The initial dosage of piperazine is 70 mg. per lb. of body weight, with a maximum of 3 gm. (30 ml. of the syrup). Subsequently, 30 mg. of piperazine per lb., with a maximum of one gm. (10 ml.), are given at twelve hours intervals for six doses. If vomiting is not frequent and drainage is unnecessary, the drug should be given by mouth; in such cases, if the initial dose (70 mg. per lb.) is retained fully, the next dose (30 mg. per lb.) should be given twenty-four, instead of twelve, hours later and repeated at twelve hour intervals.

5. After the acute illness has subsided, the stools should be examined. If eggs of *A. lumbricoides* are present, the residual infection should be treated with piperazine as an uncomplicated case of intestinal ascariasis.

Complete intestinal obstruction in ascariasis requires prompt surgical intervention. The prognosis is influenced greatly by the length of time between onset of the obstruction and the institution of surgical treatment.

Trichuriasis

Bionomics and clinical manifestations. This nematodiasis is also referred to as *Trichuris trichiura* infection, trichocephaliasis or whipworm infection. The adults of *T. trichiura* derive their common name, whipworm, from the long thread-like anterior portion and the wider posterior end. Their size range is between 30 and 50 mm. in length. The posterior portion of the male characteristically is coiled like a watchspring. The anterior end of the worm usually is threaded in the mucosa of the cecum, appendix and colon. In heavy infections, the nematodes may be found throughout the colon and in the rectum.

Very light whipworm infections usually produce no symptomatology. The presence of a large worm burden may be associated with diarrhea of long duration, dysentery, mucoid stools, abdominal pain and tenderness, dehydration, severe anemia, weight loss and weakness. Occasionally prolapse of the rectum occurs. Adult worms may be observed on the prolapsed bowel or by sigmoidoscopy. Some patients with heavy infections are acutely ill. As in hookworm infection, egg counts frequently are desirable in order to determine the size and significance of the whipworm infection. In clinical infections, eggs of *T. trichiura* are numerous in direct fecal smears.

Trichuriasis is acquired in a manner similar to ascariasis and frequently the two helminthiases coexist in the same individual. Immature eggs are passed in the stool. They embryonate in the soil under favorable conditions and become infective within a few weeks. Upon ingestion of the eggs, by geophagia, or in food or drink contaminated by infested soil, the parasites mature in the intestine. The prepatent period is approximately three months. Unlike *Ascaris lumbricoides*, the whipworm requires no migration through the lung of its host. The adult female whipworm lays several thousand eggs daily. Diagnosis is made by demonstration of typical eggs in the stool. The adult whipworms are not commonly observed in the stool except during treatment or in the exudate from patients with severe clinical infections. The preventive measures for trichuriasis are essentially the same as those for ascariasis.

Treatment for trichuriasis with dithiazanine iodide. This anthelmintic is an effective trichuricide suitable for oral administration and the drug of choice for treatment for whipworm infection. Dithiazanine iodide, known as Delvex in the U. S. and as Telmid outside of the U. S., is available in tablets with a coating designed to delay release of the drug until after passage through the stomach. The drug is a blue powder which is not readily absorbed from the intestine. The dye is excreted in the stool to which it imparts a blue color.

The dosage for adults on the first day is 100 mg. *t.i.d.* two hours after meals. On the second and subsequent days, the dosage is increased to 200 mg. *t.i.d.* The dosage for children may be calculated on a basis of 5 mg. per lb. per day, with a maximum of 100 mg. *t.i.d.* on the first day, and 10 mg. per lb. on subsequent days, with a maximum of 200 mg. *t.i.d.*

Treatment is given from five to fifteen days, depending upon the size and severity of infection. Experience has shown that light and moderately heavy whipworm infections usually are eliminated by five days of therapy, whereas ten or more days of treatment may be required to obtain parasite cure of patients with heavy infections characterized by diarrhea or dysentery. Since light infections with *T. trichiura* are asymptomatic, they do not require treatment. However, elimination of such infections may prevent the dissemination of the parasite and reduce the hazard of reinfection from the individual's environment. Stool examinations should be done two weeks after completion of treatment.

Untoward reactions to dithiazanine which may be encountered at times include nausea, vomiting, abdominal cramping, anorexia and diarrhea. These side-effects, which are not serious, are observed more frequently in children than in adults.

Hematinics should be employed to aid in the correction of the microcytic hypochromic anemia when it is present in trichuriasis.

Since ascarids and whipworms frequently occur in the same host, dithiazanine iodide (Delvex, Telmid) is a suitable therapeutic for mixed infections with these two helminths as it has anthelmintic activity against both nematodes.

Treatment for trichuriasis with hexylresorcinol retention enemas. An alternate and beneficial, though less practicable, method of treating patients with clinical trichuriasis is the use of hexylresorcinol enemas (a 0.2 per cent aqueous suspension of hexylresorcinol). The procedure for administration is as follows:

1. Cleanse the bowel with saline enemas prior to treatment.
2. Coat the buttocks, thighs, perineum and lower back liberally with petroleum jelly to protect the skin from burning by the expelled enemata.
3. Introduce a 22 caliber rubber catheter into the rectum about 15 cm. or more.
4. Instill 400 to 500 ml. of the hexylresorcinol suspension slowly.
5. Retention may be facilitated by leaving the catheter inserted and clamping the free end or by holding the buttocks together. The hexylresorcinol suspension should be expelled after retention for one-half hour. If necessary, a small saline enema may be given to initiate expulsion of the suspension.
6. Retention enemas may be repeated at four day intervals for a total of three or four times, if necessary, as indicated by sigmoidoscopic visualization of residual worms in the lower bowel and by the consistency of the stool.

Enterobiasis

Bionomics and clinical characteristics. Despite the fact that *Enterobius vermicularis,* the pinworm, seldom is the cause of serious illness, enterobiasis frequently provides clinical, epidemiologic and therapeutic problems. The macroscopic female worms measure from 8 to 12 mm. in length. The male is only 2 to 5 mm. long and is seldom observed. The adult worms reside in the cecum, appendix and adjacent portions of the ileum and the large intestine. They are essentially lumen dwellers; only occasionally are they ob-

served in the intestinal wall. The gravid females migrate from the intestine to the perianal and perineal areas where their eggs may be deposited or liberated by drying or by rupture of the worms during scratching to relieve the associated pruritus. The eggs become infective within a few hours. After ingestion of eggs, the larvae emerge and develop to maturity within the bowel without the necessity of a circulatory phase in their life cycle. Worm migration occurs from fifteen to twenty-eight days after intake of infective eggs. The handling of infested night clothing, sheets, and bathroom fixtures may result in eggs reaching the mouth and producing infection or reinfection. Since thousands of eggs may be liberated in the anal and perianal regions, a common mode of reinfection is from anus to mouth by contaminated fingers. Another method of transmission is by means of airborne eggs dislodged from shaken sheets or night clothes. Enterobiasis often is a familial infection.

The most common manifestation of pinworm infection is anal pruritus. Local symptoms during worm migration vary from mild tickling to acute pain. Excoriation and infection of the perianal area may result from scratching. The pruritus may cause disturbed sleep which results in irritability. Anorexia, restlessness, and insomnia are common in cases of severe involvement. There may be changes in behavior attitudes with inattention and lack of cooperation. Since the female worms at time migrate to the vagina, a vulvovaginitis may be associated with enterobiasis. Pinworm infection is not a common cause of appendicitis.

Diagnosis of enterobiasis is made primarily by microscopic demonstration of the typical eggs in cellulose adhesive tape preparations obtained by applying the tape to the anal and perineal areas in the morning before bathing or defecation. For practical purposes, examination of three such scotch tape preparations made on consecutive or alternate mornings is sufficient to demonstrate a large percentage of infections. Stool examination is of little value for the diagnosis of pinworm infection.

Treatment for enterobiasis. Piperazine citrate, in syrup form (*e.g.*, Syrup of Antepar), is the drug of choice for therapy for pinworm infection. The recommended treatment schedule is 30 mg. of piperazine citrate (hexahydrate equivalent) per lb. of body weight, with a maximum of 2 gm. a day, given in a single daily dose for six consecutive days. This regimen provides a cure rate of about 95 per cent. Piperazine citrate is discussed in greater detail under ascariasis.

Dithiazanine iodide (Delvex, Telmid) is another effective therapeutic for enterobiasis. The dosage for adults is 100 mg. *t.i.d.* two hours after meals for five days. The dosage for children is 5 mg. per lb. per day, in divided doses, for five days; children above 60 lbs. receive adult doses.

Owing to the short prepatent period of two to four weeks, the relatively high rate of cure, the possibilities of reinfection or autoinfection, and the time and expense required for examination of several scotch tape swabs, post-treatment therapeutic evaluation for enterobiasis often is not justifiable or practicable.

Since pinworm infection frequently is a familial problem, it is sometimes desirable to treat the entire family, particularly if more than one member is known to be infected. The above short therapeutic schedule with piperazine renders familial treatment more economical as compared to fourteen day regimens.

Infestation of the household often results in reinfection. Some of the more valuable prophylactic measures which may be recommended, if time permits their employment, are described below. Sleeping clothes and sheets (folded without shaking), underwear, towels, and wash cloths, may be soaked in ammonia water (one cup of household ammonia in five gallons of cold water) for one hour or boiled before being laundered. Children may be given a shower bath or stand-up bath daily, preferably in the morning, with thorough washing and rinsing of the perianal area and genitalia. Both of the above measures

are of particular value during the first few days of treatment. Bathroom fixtures and toilet seat may be cleansed daily. Rugs should be vacuum cleaned once a day. The fingernails should be kept short. Children should be required to wash their hands before meals and after toilet and to keep their fingers from the mouth. Metal toys may be sterilized in a hot oven, while similar plastic articles may be soaked in the dilute ammonia solution.

Hookworm Infections

Bionomics and clinical characteristics. The site of predilection of adult hookworms *(Necator americanus* and *Ancylostoma duodenale)* is the small intestine where they are attached to the mucosa. Blood from the villi is pumped through the intestine of the hookworms. The blood loss by the parasitized host may under certain conditions, cause a microcytic hypochromic anemia. The clinical manifestations and physical findings in cases of severe hookworm disease originate in a large measure from anemia. Complaint of abdominal pain and a history of "ground itch" also are salient features of hookworm infections. Hookworm eggs appear in stools of infected persons. Under favorable environmental conditions, infective larvae may develop in soil contaminated with excreta from such individuals. The infection is acquired by contact with soil. The larvae penetrate the skin, enter the circulatory system, reach the lungs, erupt into the alveoli, ascend the respiratory tract and ultimately arrive in the small intestine where they attach and mature into adult worms. These nematodes are cylindrical in shape and measure about 10 mm. in length. Eggs appear in the stool five or more weeks after invasion of the host by the larvae. The proper disposal of excreta by children and adults and the wearing of shoes to prevent contact with infested soil are important preventive measures. An adequate balanced diet containing sufficient iron to compensate for blood loss will prevent or reduce clinical manifestations.

Treatment for hookworm infections. *Necator americanus*, the intestinal hookworm of man in the United States, and *Ancylostoma duodenale* may be treated either with tetrachloroethylene or with a recently introduced drug, bephenium hydroxynaphthoate (Alcopara, Alcopar).

Tetrachloroethylene. This anthelmintic is administered in soft gelatin capsules. For many years it has been considered the drug of choice for the treatment for hookworm infections, provided the patients do not also have ascariasis. Omission of saline purgation and increase in dosage of tetrachloroethylene have resulted in more simple therapy, greater efficacy in removal of hookworms and less reaction to treatment in anemic patients.

Administration of tetrachloroethylene.

1. A light meal is taken the night before treatment.
2. Breakfast is withheld on the day of medication.
3. The tetrachloroethylene is administered as a single dose of 0.05 ml. per lb. of body weight, with a maximum of 5 ml.
4. No cathartic is given before or after therapy.
5. Stool examination should be done one week after therapy.
6. Treatment may be repeated once or twice at weekly intervals, if necessary.

Therapy with tetrachloroethylene reduces the worm burden by 90 or more per cent. Two or more treatments may be required to obtain complete removal of the worms. Therapy should not be repeated excessively in an attempt to eliminate the few remaining worms. If hookworm eggs are demonstrable in direct fecal smears either before or after therapy, treatment or retreatment may be indicated or desirable. When eggs are not detected in a direct smear and are found in small numbers by a concentration technique only, treatment or retreatment may not be justified.

Vertigo, headache, a burning sensation in the stomach, abdominal cramps, nausea and vomiting sometimes occur following the use of tetrachloroethylene.

In mixed infections with hookworm and *A. lumbricoides,* the latter may be removed with piperazine prior to use of tetrachloroethylene, which may stimulate migration of ascarids. However, bephenium hydroxynaphthoate may be employed to treat for both helminthiases simultaneously.

Bephenium hydroxynaphthoate *(Alcopara, Alcopar).* The introduction of this anthelmintic provides an alternate therapeutic to tetrachloroethylene for treatment for hookworm infections and, as indicated above, it is suitable for use when mixed infections of hookworm and *A. lumbricoides* are present.

Administration of Bephenium hydroxynaphthoate.

1. The standard dosage, regardless of weight, is 5 gm. of the hydroxynaphthoate salt of bephenium which contains 2.5 gm. of the bephenium base.
2. Dissolve the dispersible granules of the drug in one-half glass of water. Take orally as a single dose in the morning on an empty stomach.
3. No food is permitted for at least two hours.
4. No purgation should be employed. It is unnecessary and removes the drug before the full anthelmintic effect is exerted.

For mass treatment for hookworm infection a single dose of 5 gm. of Alcopara has been recommended. For hospitalized patients, particularly when diarrhea is present, more effective results may be obtained with three doses each of 5 gm. given in one day, or with a daily dose of 5 gm. for four to seven days.

Side-effects from bephenium therapy include loose stools and borborygmi.

Hookworm anemia. An essential part of treatment for hookworm disease, *i.e.,* hookworm infection and anemia, is therapy directed toward restoration of normal blood values. Administration of ferrous sulfate and, in cases of extreme anemia, transfusions with whole blood or packed red corpuscles may be indicated. In view of the frequent association of anemia, hypoproteinemia and malnutrition with hookworm disease, improvement or correction of the diet also is often indicated.

Strongyloidiasis

Bionomics and clinical characteristics. The minute parasitic adult female *Strongyloides stercoralis* (about 2 mm. in length) may be imbedded in the mucosa of the small intestine, especially in the duodenum. The presence of the infection in some individuals may elicit a tissue reaction associated with clinical, and sometimes radiographic, evidence of a duodenitis. Frequent symptoms and findings in clinical cases of strongyloidiasis are pain in the epigastrium, nausea, vomiting, anorexia, weight loss, weakness, diarrhea and urticaria. The manifestations may recur frequently. These recurrences of symptoms possibly are associated with internal or external autoinfection. Strongyloidiasis initially is acquired by the invasion of the skin by infective filariform larvae from infested soil. The prepatent period for human strongyloidiasis is about one month. In this helminthic infection, noninfective rhabditiform larvae usually are passed in the stool. At times these larvae may develop into the filariform stage in the large intestine or in the perineal region and reinvade the same host. Thus, reinfection may occur repeatedly and frequently. Strongyloidiasis, through these mechanisms, *i.e.,* internal autoinfection and external or perianal autoinfection, may persist for decades in the same host. Prevention of infection requires essentially the same measures as for hookworm, except for autoinfection.

Treatment for strongyloidiasis. The introduction of dithiazanine iodide (Delvex, Telmid) has provided the first effective therapeutic for strongyloidiasis. Initially a regimen of 200 mg. *t.i.d.* for twenty-one days for adults was employed. Recent experience indicates that for adults a dosage of 100 mg. of dithiazanine iodide *t.i.d.* two hours after meals for twenty-one days provides equivalent therapeutic results, and, at present is the recommended schedule. A fourteen day regi-

men is curative in many cases. The dosage for children is 5 mg. per lb. per day in divided doses; those above 60 lbs. receive adult doses.

The therapeutic efficacy for strongyloidiasis in adults, based upon examination of extensive series of stools and numerous duodenal drainage specimens, has been established as 90 per cent or higher. Side-effects from the drug during treatment for strongyloidiasis, even in the presence of duodenitis from the infection, have been minimal. This anthelmintic is discussed in greater detail under trichuriasis.

Stools should be examined two weeks after completion of a course of dithiazanine and then once monthly for three months. Examination of large numbers of stools and of duodenal drainage fluid usually is not practicable. If retreatment is necessary, the twenty-one day regimen at a dosage level of 100 mg. *t.i.d.* may be employed.

Tapeworm Infections

Bionomics and clinical characteristics. Tapeworms are hermaphroditic, segmented flatworms consisting of a small scolex ("head"), a "neck", and a variable number of proglottids ("segments") which carry out the nutritional, excretory and reproductive functions. The proglottids are regenerated from the scolex and neck; therefore, effective anthelmintic therapy must result in the elimination of the scolex. The cestodes which parasitize the intestine of man vary in size from about 40 mm. *(e.g., Hymenolepis nana)* to over 20 meters *(e.g., Diphyllobothrium latum)*. *Taenia saginata*, the beef tapeworm, infects man when undercooked beef, containing the larval forms, is ingested. The scolex is attached to the small intestine and the chain of segments may have a length of over 10 meters. Eggs deposited in the soil infect cattle and the larvae (cysticerci) develop in the muscles and other tissues of the intermediate host. Infections with *Taenia solium* are acquired by eating undercooked pork containing the larvae of the parasite. Taeniasis may be associated with abdominal pain, weight loss, diarrhea and weakness. Eggs of *T. solium* may reach the upper intestinal tract either by ingestion or regurgitation. After digestion of the eggs, the liberated larvae may be carried *via* the circulation to various tissues, such as the muscles, brain and eye; thus, producing cysticercosis. The latter is not susceptible to chemotherapy by any known anthelmintic agent. *Diphyllobothrium latum* is introduced by the ingestion of poorly cooked fish containing the larvae. It has been known for a long time that some infections by *D. latum* are associated with a megaloblastic anemia. Elimination of the parasite by anthelmintic therapy results in a rapid return of the blood picture to normal and a permanent remission. In contrast to other cestodes, *D. latum* assimilates large amounts of vitamin B_{12} and the concentration of this vitamin in *D. latum* is 50 times higher than that in *Taenia saginata*. *Hymenolepis nana*, the dwarf tapeworm, can develop entirely in man and does not require an intermediate host. The egg passed in the stool is the infective stage. The adult worm is attached to the mucosa of the small intestine. Abdominal pain and diarrhea have been ascribed to this infection.

Treatment for infection with the large tapeworms. Elimination of the large cestodes, *T. saginata*, *T. solium* and *D. latum* may be accomplished by use of quinacrine hydrochloride (Atabrine).

Administration of Atrabine.

1. The diet on the day before treatment should be bland or liquid.

2. A saline purge is given in the afternoon on the day prior to treatment. This provides a guide to the patient's requirements for active purgation and removes the roughage from the bowel.

3. No food is permitted on the morning of treatment until a bowel movement is obtained after therapy.

4. On the morning of treatment a saline cleansing enema is given.

5. One hour after the enema, two 0.1 gm. tablets of quinacrine hydrochloride

(Atabrine) are taken every five minutes with a little water until the total dosage, 1 gm. for adults, is consumed. The dosage is reduced for smaller persons and children, according to size and age. If the tablets of quinacrine are vomited, the lost dosage may be repeated after the vomiting has ceased. The addition of sodium bicarbonate to the water taken with the drug may obviate or minimize the nausea and vomiting in patients who do not tolerate quinacrine very well.

6. Two to four hours after administration of the drug, the purge is repeated. It is important that the post-treatment purgative should be sufficient to cause a copious evacuation. The desired dosage can usually be determined on the basis of results of the cathartic given on the day prior to treatment. Vigorous purgation in children should be avoided.

All stools passed within 24 hours should be examined carefully for the minute scolex. Inability to demonstrate the scolex is not necessarily an indication of failure of treatment. Repetition of therapy is not indicated until evidence of infection, such as proglottids or eggs in the stool, reappears, which may require several weeks in case the treatment was unsuccessful. If only a small portion of the tapeworm is passed, stool examinations may be made at weekly intervals in an effort to demonstrate eggs of the tapeworms. In case of complete failure of the treatment, assuming that the diagnosis of tapeworm infection is correct, treatment may be repeated safely after an interval of one week.

Treatment for Hymenolepis nana infection with hexylresorcinol. Therapy for dwarf tapeworm infection is not entirely satisfactory. Hexylresorcinol ('Crystoids' Anthelmintic) is the preferred therapeutic.

Administration of hexylresorcinol ('Crystoids' Anthelmintic).

1. A light meal consisting of soft foods should be taken the evening before treatment.

2. The drug, 'Crystoids' Anthelmintic, is administered the following morning on an empty stomach. The dosage is 0.1 gm. per year of age, with a minimum of 0.4 gm. and a maximum of 1 gm. The hard gelatin-coated pills *must be swallowed intact* to prevent damage to the buccal mucosa. The pills must not be crushed or chewed. The mouths of children should be inspected carefully to make certain that the pills have not been retained between the cheek and teeth or under the tongue.

3. No food is permitted for at least four hours.

4. A saline purge is given twenty-four hours after treatment. A mild laxative is adequate for children.

The treatment may be repeated once, after an interval of one or two weeks, if necessary. If the infection persists and numerous eggs are demonstrable in direct fecal smears, treatment with Atabrine according to the procedure described for infections with the large tapeworms may be employed.

Treatment for Mixed Infections with Common Intestinal Nematodes

Mixed or multiple intestinal nematode infections occur commonly in tropical and subtropical areas and pose a problem of selection of appropriate therapeutics. An outline of the drug or drugs which may be employed when various combinations of intestinal nematodiases are encountered is presented in Table 2. The therapeutic usefulness of a broad spectrum anthelmintic (dithiazanine iodide) or of compounds with anthelmintic activity against at least two common intestinal roundworms of man (bephenium hydroxynaphthoate, piperazine salts) in such cases is evident.

The indications for use of dithiazanine iodide (Delvex, Telmid) are summarized more simply in Table 3.

Summary

The demonstrations of the anthelmintic activity of piperazine,dithiazanine and bephenium compounds have been the major recent developments in the field of

TABLE 2
TREATMENT FOR MIXED INFECTIONS WITH INTESTINAL NEMATODES

Infections	Drugs
(1) Trichuriasis, ascariasis, strongyloidiasis and enterobiasis	Dithiazanine
(2) Trichuriasis, ascariasis and strongyloidiasis	Dithiazanine
(3) Trichuriasis and ascariasis, with or without enterobiasis	Dithiazanine
(4) Strongyloidiasis and trichuriasis, with or without enterobiasis	Dithiazanine
(5) Strongyloidiasis and ascariasis, with or without enterobiasis	Dithiazanine
(6) Enterobiasis with either trichuriasis or strongyloidiasis	Dithiazanine
(7) Ascariasis and enterobiasis	Piperazine citrate
(8) Hookworm and ascariasis	Bephenium
(9) Hookworm, ascariasis, trichuriasis, strongyloidiasas, with or without enterobiasis	(A) Dithiazanine (14 or 21 days) followed by tetrachloroethylene or bephenium; *or* (B) Bephenium followed by dithiazanine (14 or 21 days); or (C) Diathiazanine (300 to 600 mg.) and tetrachloroethylene 1 ml. (child) or 2 ml. (adult) on three alternate days; extend dithiazanine therapy for eradication of the strongyloidiasis
(10) Hookworm and strongyloidiasis	Tetrachloroethylene or bephenium followed by dithiazanine (14 or 21 days)
(11) Hookworm and trichuriasis	Tetrachloroethylene or bephenium followed by dithiazanine (5 or more days)
(12) Hookworm and enterobiasis	Tetrachloroethylene or bephenium followed by piperazine citrate

TABLE 3
INDICATIONS FOR USE OF DITHIAZANINE IODIDE

(1)	Trichuriasis (whipworm infection)
(2)	Strongyloidiasis
(3)	Trichuriasis and ascariasis
(4)	Other mixed infections with intestinal nematodes when either trichuriasis or strongyloidiasis is present

anthelmintics for intestinal helminthiases. Piperazine is an effective agent for treatment for ascariasis and enterobiasis. Dithiazanine iodide provides for the first time an effective oral therapeutic for trichuriasis and for strongyloidiasis. The demonstration of the effective broad spectrum anthelmintic activity of dithiazanine iodide permits the treatment of persons having multiple infections with common intestinal nematodes with a single drug. The polyvermicidal effect of dithiazanine is significant since mixed infections with intestinal roundworms occur frequently in subtropical and tropical areas. Finally, the introduction of bephenium hydroxynaphthoate provides an alternate drug to tetrachloroethylene for therapy for hookworm infection and a therapeutic for mixed hookworm and Ascaris infections.

The Journal of the Louisiana State Medical Society

Established 1844

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Manuscripts should be addressed to the Editor, 1430 Tulane Ave., New Orleans, La.

The Journal does not hold itself responsible for statements made by any contributor.

Editorial

The Present Situation in the Treatment of Diabetes

Diabetes is increasing in importance in relationship to other diseases. There are three million diabetics in this country. Only one-half of these are known to themselves and their physicians. One in each four persons is genetically a carrier. Diabetes is eighth in the causes of death. Five million persons now living will develop diabetes. Twenty-two per cent of the close relatives of diabetics have the condition without knowing it.

Investigations show that the disease may produce degenerative changes in various organs before the clinical picture is manifested. Medical advances have added to life expectancy. This has allowed an increasing number of persons to live to an age of increased susceptibility. The result is that nearly every physician needs to be concerned with diabetes and its treatment. It is a condition which the patient views with alarm and accepts with despair, for many reasons: The restrictions are distasteful; the need for medication by needle objectionable; and the possibility of coma or insulin reaction produces a continuous but subliminal fear. Many patients become discouraged by the monotony of the regime, and others by their inability to meet their own, or the doctor's standards of control. On the other hand, the physician may approach the problem of caring for the diabetic reluctantly, and possibly, with good cause. He may not be equipped with the exact knowledge or experience in a fast moving field, which would enable him to stabilize the tripod of calories, insulin, and exercise. He may be weary of frustration in his attempts to balance the unstable diabetic. He may become more weary of meeting the emotional problems of the patient's depressive reaction in this parade of events.

However, prospects of an encouraging nature are found in recent developments in this situation. Investigation is more active in diabetes than at any previous time. This has been stimulated in part by the experimental and clinical use of oral hypoglycemic agents. Research here has continued for decades, and three chemicals have become clinically available in the past two years in this country.

The anticipation is that these may materially improve the comfort and stability of many diabetics. Two other substances have been tried and withdrawn, though they are still in use in Europe.

Tolbutamiade (Orinase) has been used here about two years. It is a sulfonylurea compound and is related to the sulfanilamide group but is said not to be a derivative of nor a sulfonamide. It is stated that the NH_2 group is replaced in the alpha position of the benzene ring of sulfanilamide by a methyl group. Tolbutamide will lower blood sugar in normals and in diabetics. It has been found effective in a selected group of stable diabetics. These patients are usually past 40. The drug may be beneficial in some patients under 30, who are taking less than 30 units of insulin per day. Tolbutamide is relatively nontoxic, but disturbing side effects may appear in about 3 per cent. Some instances of blood dyscrasies have been reported. It is estimated that four hundred thousand diabetics are using Tolbutamide now, either to supplement insulin or without the need of insulin.

The method of action is thought to be stimulation without exhaustion or destruction of the beta cells of the islands of Langerhans. It does not lower blood sugar in the absence of the pancreas. In a report on 9,168 patients, Tolbutamide produced a satisfactory response in 59 per cent, who had been on insulin; and on 76 to 79 per cent among those who had not been using it.

Chlorpropamide (Diabinase) is another sulfonylurea drug available for the diabetic. Its mode of action is similar to Tolbutamide. It is quickly absorbed and slowly excreted, and has a half-life six times greater than that of Tolbutamide. It is effective in some patients in whom Tolbutamide was not. It is relatively nontoxic, but side effects may be disturbing. These are nausea, anorexia, dizziness, and muscle weakness. The toxic effects are skin rashes, minor depression of the white cells, platelets, and jaundice, the latter may be alarming. These toxic effects in cases reported have disappeared on cessation of its use.

The third preparation is phenyl-ethyl-biguanide (DBI). It is in a different series of chemicals from the other two, has little influence on the blood sugar levels of nondiabetic persons, and its mode of action is a matter of conjecture. It was found to be effective alone, or with a reduced amount of insulin, in 62 per cent of an unselected group of diabetics. No organ toxicity has been reported. However, in 26 per cent of a certain series of patients it had to be discontinued because of gastrointestinal side effects.

The place of these three oral hypoglycemic agents in diabetes will become apparent in the massive clinical trial now in process. The points of special concern are the control of side effects, prevention of organic toxicity, and the ultimate action on the human body over months and years.

The benefits in the management of diabetes will come in two groups: The mild diabetic, whose condition is not controlled by diet and is uncomplicated, has better than a 50 per cent chance to avoid insulin. The more serious diabetic state can be improved by supplementing the usual regime and the insulin with whatever preparation is ultimately found to be most dependable. By such means, greater stability of blood sugar, and consequent security of management will come to pass. The distressing swing from hyperglycemia to hypoglycemia can be avoided. Such an accomplishment will mean a profound relief to patient and physician.

These preparations, in general, are to be avoided in juvenile diabetics. They are not to be depended upon exclusively in the treatment of very unstable diabetics or during complications. They are not to replace careful adherence to diet. It is apparent, at this time, that diet and systematic management are still the fundamentals of the treatment of diabetes. To these should be added, when indicated, insulin or the oral hypoglycemic drugs, or both.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

INCOME DIVISION OF PARTNERS

The Judicial Council of the American Medical Association in 1947 advised the House of Delegates that the Principles of Medical Ethics also applied to group practice and partnerships, as well as to individual physicians. As we all know, the principles of ethics as applied to private practice forbids the splitting of fees under any and all conditions. This rule also applies to group practice. Any number of doctors forming a group for the practice of medicine must not divide their income in dollars and cents equally but in accordance with the particular income services earned by each member of the group or partnership. This ruling caused many physicians to question the ethics of a partnership arrangement between an old and young physician in a 50 - 50 split of income. This was considered by the Council as unethical for the reason that the young man would not earn or be entitled to 50 per cent of the income for possibly many years.

To dispel the doubts in the minds of many practitioners on this subject, the Judicial Council of the A.M.A. has recently clarified its statement in regard to this matter. The partners must divide their income in accordance with the value of the total services contributed by each partner or member of the group. The young physician member of the firm may, by making emergency night calls, et cetera, contribute overall services equal to or greater than the older doctor, and although he does not contribute 50 per cent of the income in dollars and cents, he would be entitled to a 50 - 50 split of the income proportionate to total services rendered by each partner.

EARLY SURVEY RESULTS SHOW LOUISIANA DOCTORS GENEROUS GROUP

Early results of the Louisiana State Medical Society's survey of medical and non-medical services rendered by its members show, with very few exceptions, Louisiana doctors contribute scores of thousands of hours of free medical care worth millions of dollars, and make generous cash contributions to charity.

Almost 20 per cent (459 doctors or 19.3 per cent) of the Society's active membership of 2,373, responded to the survey. This is a good response when one considers that in surveys of tho type used in political forecasting and the guaging of public opinion, results are based on sampling of less than 2 per cent of the population. A 20 per cent sampling provides the basis for a very accurate picture of Louisiana physicians' contributions.

Although 459 doctors participated in the survey, the total was not used in compiling the answers to each question. The reason for this is that some doctors who sent in replies were retired, not in private practice, teaching full-time, salaried, or the data was obviously too far out-of-line to be considered accurate. One or two practical jokers sent in cards with obviously fictitious answers. Therefore, the number responding fluctuates for each answer and the percentage of those participating in the survey varies from question to question.

In answer to the first question concerning the number of hours of free medical service rendered, the response was as follows:

Number Replying	Percentage of Membership	Total Hours
435	18.33%	103,063

Average Hours Per Year Per Doctor
236.92

Thirty-five doctors reported rendering over 500 hours of free medical service per year. A breakdown of the "highs" shows:

Number of Hours	Number of Doctors	Percentage of Replies
500-600	17	3.9%
601-700	11	2.5%
Over-700	7	1.6%

There were 48 doctors in the "low" group, those reporting giving less than 75 hours of free medical service per year. The figures on this group are:

Number of Hours	Number of Doctors	Percentage of Replies
4-24	9	2.0%
25-49	11	2.5%
50-75	28	6.4%

Using the average figure 236.92 hours of free medical service per doctor and assuming that this is representative of our "average doctor", members of the Society contribute, in the course of a year, 562,221 hours of free medical service.

Further results of the survey are now being compiled and will be published in the next issue of the Journal.

FOUR CHIROPRACTORS RUNNING FOR LEGISLATURE

According to a report from our legislative representative, Mr. Percy Landry, four chiropractors will be candidates for the Legislature

in the December elections. Chiropractors are running for the House of Representatives in Lafayette, Rapides, Beauregard and Avoyelles Parishes. Physicians in these parishes should take an active part in the election and work to see that representatives favorably disposed to the medical profession are elected. Situations such as this point out the importance of having more physicians as candidates for the Legislature.

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY, INC.

The next scheduled examination (Part 1), written, and review of case histories for all candidates will be held in various cities of the United States, Canada, and military centers outside the Continental United States, on Friday, January 15, 1960. Candidates must submit case reports to the office of the Secretary within thirty days of being notified of their eligibility to Part 1.

Current Bulletins may be obtained by writing to:

Robert L. Faulkner, M. D.
Executive Secretary and Treasurer
2105 Adelbert Road
Cleveland 6, Ohio

UNIVERSITY OF TEXAS POSTGRADUATE SCHOOL OF MEDICINE

The University of Texas Postgraduate School of Medicine announces that PAUL WOOD, O. B. E., M. D. (Melbourne), F. R. C. P. (London) is the James J. and Una Truitt Lecturer for the year 1959.

Dr. Wood is Director of the Institute of CARDIOLOGY, London; Physician, National Heart Hospital; and Physician in Charge of the Cardiac Department, Brompton Hospital.

The distinguished guest lecturer from London, England, will present a course in cardiology at the Texas Medical Center, December 7 through 11, 1959.

For further information write: Office of the Dean, The University of Texas Postgraduate School of Medicine, 410 Jesse Jones Library Building, Texas Medical Center, Houston 25, Texas.

1960 MEETINGS OF THE AMERICAN COLLEGE OF SURGEONS

January

Sectional Meeting, The Brown Hotel, Louisville, Kentucky, January 21, 22, 23. Dr. Rudolf J. Noer, Local Chairman. Address inquiries to: Dr. H. P. Saunders, 40 East Erie Street, Chicago 11, Illinois.

February

Four-day Sectional Meeting for Surgeons and Nurses, The Statler Hilton (Surgeons Hdqrs.) and Sheraton-Plaza (Nurses Hdqrs.), Boston, Massachusetts, February 29, March 1, 2, 3. Dr. Claude E. Welch, Local Chairman. Dr. Anne Kibrick, Chairman, Nurses Program. Address inquiries to: Dr. H. P. Saunders, 40 East Erie Street, Chicago 11, Illinois.

March

Sectional Meeting, The Broadmoor, Colorado Springs, Colorado, March 21, 22, 23. Dr. Edward H. Vincent, Local Chairman. Address inquiries to: Dr. H. P. Saunders, 40 East Erie Street, Chicago 11, Illinois.

Sectional Meeting, Sheraton-Portland Hotel, Portland, Oregon, March 28, 29, 30. Dr. Millard S. Rosenblatt, Local Chairman. Address inquiries to: Dr. H. P. Saunders, 40 East Erie Street, Chicago 11, Illinois.

April

Sectional Meeting, Hotel Leamington, Minneapolis, Minnesota, April 11, 12, 13. Dr. Horace G. Scott, Local Chairman. Address inquiries to: Dr. H. P. Saunders, 40 East Erie Street, Chicago 11, Illinois.

Sectional Meeting, Kahler Hotel, Rochester, Minnesota, April 14. Dr. Edward Starr Judd, Jr., and Dr. Joseph H. Pratt, **Co-Chairman**. Address inquiries to: Dr. H. P. Saunders, 40 East Erie Street, Chicago 11, Illinois.

October

1960 Clinical Congress, San Francisco, California. October 27 - November 1.

NOVEMBER MEETING DIABETES ASSOCIATION OF LOUISIANA

Dr. Frank Pickell, Baton Rouge, Louisiana, President of the Diabetes Association of Louisiana, has announced plans for a meeting of this society and scientific program to be held November 7, 1959.

The scientific program will consist of a panel discussion on oral hypoglycemic agents. The discussors will be Dr. Joseph Dingman, New Orleans, moderator; Dr. A. A. Herold, Jr., Shreveport; Dr. Douglas Gordon, Baton Rouge; and Dr. Daniel W. Hayes, New Orleans. Another paper will be presented on steroid diabetes by Dr. F. Gilbert McMahon, New Orleans. Another speaker will be Dr. Sol Stern of New Orleans whose subject will be announced later.

The Diabetes Association of Louisiana is an affiliate of the American Diabetes Association. The meeting is open to any practicing physician in the state of Louisiana and all are cordially invited to attend this meeting, which will be held at the Belmont Motel on the Airline bypass, Baton Rouge, Louisiana at 2 p.m. There will be no fee for attending this function.

If there is any further information desired, please contact Dr. Frank Pickell, President or Daniel W. Hayes, Vice-President, Diabetes Association of Louisiana.

Daniel W. Hayes, M. D.
Governor, State of Louisiana
American Diabetes Association

POSTGRADUATE COURSE APPLIED OPHTHALMIC PATHOLOGY

The Department of Ophthalmology of the Emory University School of Medicine announces a postgraduate course in Applied Ophthalmic Pathology on December 3 and 4, 1959 at the Grady Memorial Hospital, Atlanta, Georgia. The guest lecturers will be Dr. Lorenz Zimmerman of the Armed Forces Institute of Pathology, Washington, D. C.; Dr. T. E. Sanders of Washington University, St. Louis; Dr. J. A. C. Wadsworth of Columbia Presbyterian Medical Center, New York, and Dr. J. T. Godwin of Atlanta, Georgia.

LOUISIANA FELLOWSHIPS AMERICAN COLLEGE OF SURGEONS

Approximately 1,015 surgeons were inducted on October 2 as new Fellows of the American College of Surgeons in cap-and-gown ceremonies closing the annual five-day Clinical Congress of the world's largest organization of surgeons. The A.C.S., founded in 1913 to establish standards of competency and character for specialists in surgery, has grown in 46 years' time from a founding group of 450 to a total membership of more than 23,250.

Fellowship, entitling the recipient to the designation, "F.A.C.S.," following his name, is awarded to doctors who fulfill comprehensive requirements for acceptable medical education and advanced training as specialists in one or another of the branches of surgery, and who give evidence of good moral character and ethical practice.

Those receiving this distinction from the State of Louisiana at the 1959 Convocation are as follows: Alexandria, Robert P. Foster; New Orleans, Charles C. Abbott, George S. Ellis, Raeburn C. Llewellyn, M. Bert Myers, W. Randolph Page, Paul G. Reyes; Shreveport, John C. Hardin, Jr., Joel W. Williamson.

HENRY G. RUDNER, SR. AWARD IN GASTROENTEROLOGY

The American College of Gastroenterology announced recently that the 1959 Henry G. Rudner, Sr. Award for the best unpublished paper on gastroenterology or an allied subject has been given to Dr. Martin E. Gordon of New Haven, Conn.

Dr. Gordon, who is Assistant Clinical Professor of Medicine at Yale University School of Medicine presented his paper "The Acute Effects of Abdominal Paracentesis in Laennec's Cirrhosis Upon Exchanges of Electrolytes and Water, Renal Function and Hemodynamics" on Monday morning, September 21, 1959, at the

24th Annual Meeting of the American College of Gastroenterology in Los Angeles, Calif.

The award, consisting of a cash prize of $750.00, was presented to Dr. Gordon at the Annual Dinner-Dance of the College on Tuesday evening, September 22.

DR. LAWSON PRESIDENT-ELECT SOUTHERN MEDICAL ASSOCIATION

New Orleans, famed for its cuisine and glamor, is also a city of distinguished medical men. One of its most outstanding is the president-elect of Southern Medical Association, Dr. Edwin Hugh Lawson, who will be installed in office at the conclusion of SMA's 53rd annual meeting in Atlanta, November 16-19. He will succeed Dr. Milford O. Rouse, Dallas, Tex., now serving as president of the association.

Dr. Lawson has a long list of medical distinctions. He is a past president of the Orleans Parish Medical Society, the Louisiana State Medical Society, the New Orleans Graduate Medical Assembly and the Louisiana Association of Pathologists.

He is also a member of the College of Pathologists, the American Society of Clinical Pathologists and the American Chemical Society. The distinguished physician is a Phi Beta Kappa and a member of Phi Chi Medical Fraternity. His college fraternity was SAE and locally he is a Rotarian and member of the Orleans Country Club.

Although a native of Indiana, Dr. Lawson has an attachment of long standing to New Orleans. It was there that he interned at Touro Infirmary and completed a residency in Pathology. He became Pathologist and Director of the Department of Pathology at Southern Baptist Hospital in New Orleans in 1926—a position he still holds. He has been connected with Tulane University since his graduation and is now Director of Laboratories.

Other New Orleans physicians who are active in Southern Medical Association affairs are Dr. M. M. Hattaway, member of the Councilors (association governing body;) Section Secretaries Drs. George E. Welch, Gastroenterology; Dr. A. N. Houston, Industrial Medicine and Surgery; Mercer G. Lynch, Ophthalmology and Otolaryngology; Solomon Winkour, Physical Medicine and Rehabilitation; Patrick H. Hanley, Proctology; and Seymour Ochsner, Radiology.

New Orleans has been honored by the selection of four other of its prominent physicians to serve as presidents of Southern Medical Association in past years. They were Dr. Isadore Dyer, 1911; Dr. Oscar Dowling, 1915; Dr. C. C. Bass, 1926; and Dr. Lucien A. LeDoux, 1948.

Southern Medical Association has held five of its annual meetings in New Orleans, the last in 1958.

TWENTY-THIRD ANNUAL MEETING THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

The twenty-third annual meeting of The New Orleans Graduate Medical Assembly will be held March 7, 8, 9 and 10, 1960, headquarters at The Roosevelt Hotel.

Nineteen outstanding guest speakers will participate and their presentations will be of interest to both specialists and general practitioners. The program will include fifty-six informative discussions on many topics of current medical interest, in addition to clinicopathologic conferences, symposia, medical motion pictures, round-table luncheons and technical exhibits.

Following the meeting in New Orleans, arrangements have been made for a clinical cruise on the M/S Franca "C" to the West Indies, leaving from Port Everglades, Florida, on Saturday, March 12. The itinerary includes visits to Puerto Rico, Virgin Islands, Martinique, Barbados, Trinidad, Curacao and Haiti, returning to Florida on Friday, March 25.

Details of the New Orleans meeting and the cruise are available at the office of the Assembly, Room 103, 1430 Tulane Avenue, New Orleans 12, Louisiana.

BOOK REVIEWS

The Human Ear Canal; by Eldon T. Perry, M. D., Springfield, Illinois, Charles C Thomas, 1957, pp. 116, Price $4.75

This text presents a dermatologist's views on otitis externa. The sections on anatomy, physiology, microbiology, and cerumen are thorough. Some of the later sections, however, are somewhat too general. The chapter on "The Clinical Picture of External Otitis" omits such entities as diffuse external otitis due to gram negative bacteria.

There is an interesting and helpful tabulation in Chapter 8 on biopsy as a diagnostic aid in evaluation of difficult cases of external otitis.

L. J. RUTLEDGE, M. D.

Diseases of the External Ear; by Ben H. Senturia, Springfield, Illinois, Charles C Thomas, 1957, pp. 211, price $8.50.

It takes few words to describe this text. All sections are exceptionally clear and logical; it is well illustrated. Classification and therapy of

diseases of the external ear are especially good.

Much of the investigative work done on this subject was done by the author. He is to be congratulated on an excellent, compact book.

L. J. RUTLEDGE, M. D.

Movement of the Heart and Blood in Animals; an Anatomical essay by William Harvey; translated from the original Latin by Kenneth J. Franklin and now published for the Royal College of Physicians of London. Springfield, Illinois. Charles C Thomas Co., 1957. Pl. pp. 209, Price $3.50.

The distinguished English classicist and physiologist, Dr. Kenneth J. Franklin gives us a new and more precise translation from the original Latin of William Harvey's epochmaking contribution *De Motu Cordis* (1628). The project has been sponsored by the Royal College of Physicians of London and the appearance of this small and reasonably priced volume will be welcomed by physiologists and medical historians alike.

The book contains a reprinting of the Latin text as well as its careful and readable translation into English and a colored plate of the portrait of Harvey which hangs in the Royal College of Physicians.

Local physicians will remember Dr. Franklin's visit to New Orleans in 1951, when he was made Visiting Professor in Tulane University School of Medicine. He is internationally known for his studies on cardiovascular physiology and on the history of cardiology.

MARY LOUISE MARSHALL

May's Manual of the Diseases of the Eye; by Chas. A. Perera (Ed.) 22d ed. Baltimore, Maryland, Williams & Wilkins Co., 1957, pp. 518, Price $6.00.

This small classic has been passed through sixty-nine editions in ten languages in the past fifty-eight years, a record which few books of its kind have surpassed. The reasons for its world popularity are: (1) Only practical fundamentals are discussed; (2) these are presented with surprising simplicity and in an orderly manner; (3) a reasonably low price has been maintained.

In evaluating this edition it is important to realize that it is written primarily for non-ophthalmologists such as medical students and general physicians and that it has a world-wide circulation. Dr. Perera, the editor, is to be congratulated upon this revision which includes a reclassification of primary glaucoma and uveitis; the newer uses of corticosteroids; a re-evaluation of antibiotics; Behcet's syndrome, retrolental fibroplasia, and persistent hyperplastic primary vitreous; and other newer concepts.

A subject which may be revised in a newer edition is the psychosomatic factor in ophthalmology, and several of the illustrations could be modernized.

Dr. Perera is to be commended for this excellent revision which renders service not only to ophthalmology, but also to medical science throughout the world.

CHAS. A. BAHN, M. D.

The Treatment of Burns; by Curtis P. Artz, M. D. and Eric Reiss, M. D. Philadelphia, Pa. William B. Saunders, 1957, pp. 250, Price $7.50.

This book attempts to condense the treatment of burns and presents practical details which may be useful in the management of burns. In this it has succeeded in emphasizing the immediate care of the burn per se and has included the methods of calculating the initial replacement of fluids. It has an excellent chapter on repair of full-thickness burns and burns of specific areas. It adequately presents the metabolic response to burns and relates the importance of the problem of infection. In addition, the practical details of burn therapy are discussed and the complications and results are documented. The author is very cognizant of the possibility of a major disaster and goes into the management of burns in case of total war. This should be recommended reading for the surgeon and student and anyone who handles severe burns.

CHARLES C. ABBOTT, M. D.

Clinical and Immunologic Aspects of Fungous Diseases; by Walter J. Wilson, Springfield, Illinois, Charles C Thomas, 1957, pp. 280, Price $6.75.

This book owes its excellence to a fortunate set of circumstances, namely, a long-continuing interest in a subject by a gifted man, who also can write lucidly. For twenty-five years Dr. Wilson has made important contributions both to the clinical and immunological aspects of fungus diseases. His work, and the work of others is summarized in this volume, which is heartily recommended.

V. J. DERBES, M. D.

PUBLICATIONS RECEIVED

American Diabetes Association, N. Y.: A Cookbook for Diabetics, by Deaconess Maude Behrman.

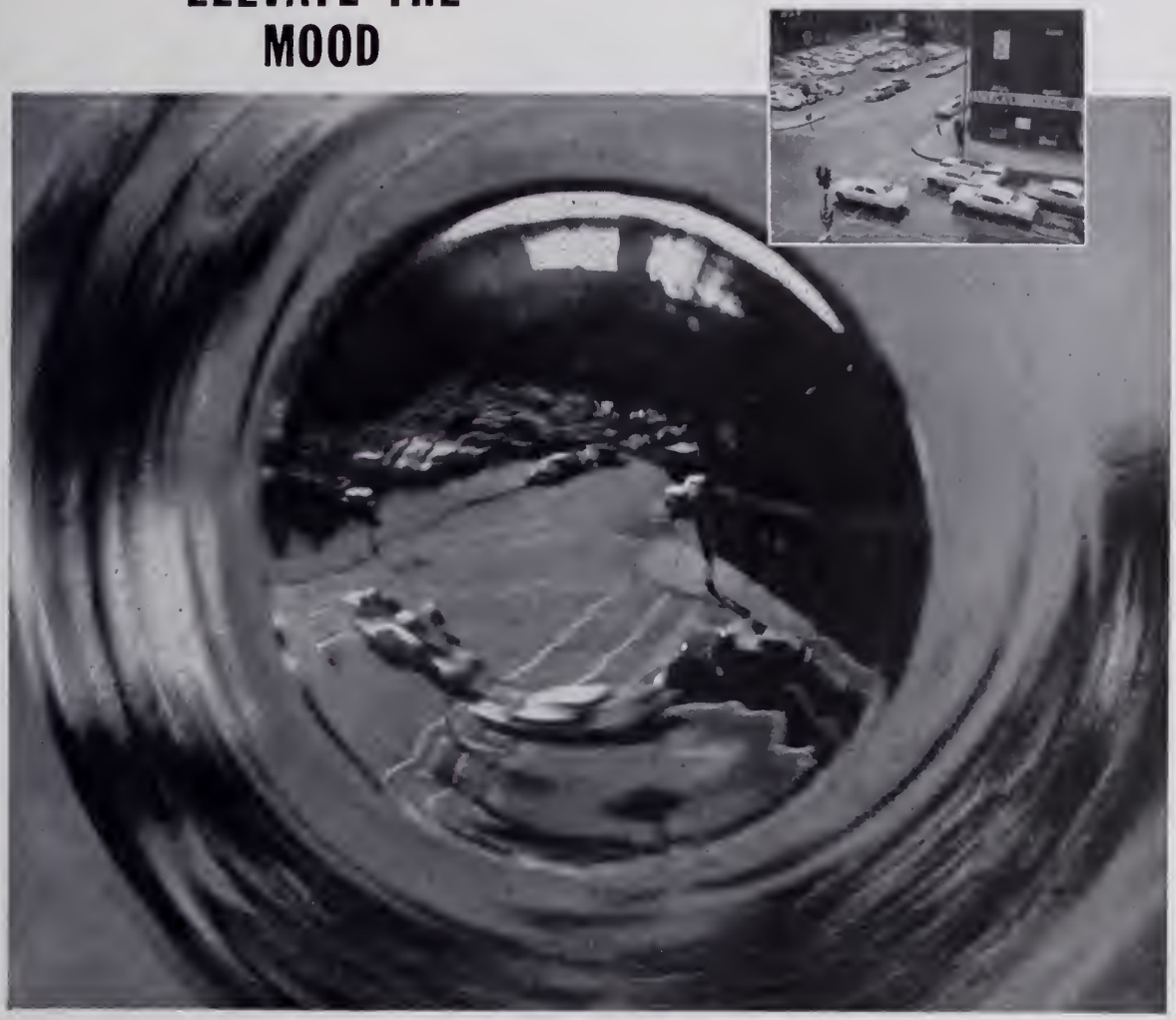
Doubleday & Company, Inc., Garden City, N. Y.: The Modern Family Health Guide, edited by Morris Fishbein.

Grune & Stratton, Inc., N. Y.: An Introduction to Child Psychiatry, by Stella Chess, M.D.

Lea & Febiger, Phila.: Anatomy of the Human Body, by Henry Gray, F.R.S., edited by Charles Mayo Goss, M.D. (27th edit.).

W. B. Saunders Co., Phila.: The Surgeon and the Child, by Willis J. Potts, M.D.; Clinical Auscultation of the Heart, by Samuel A. Levine, M.D., and W. Proctor Harvey, M.D. (2nd edit.).

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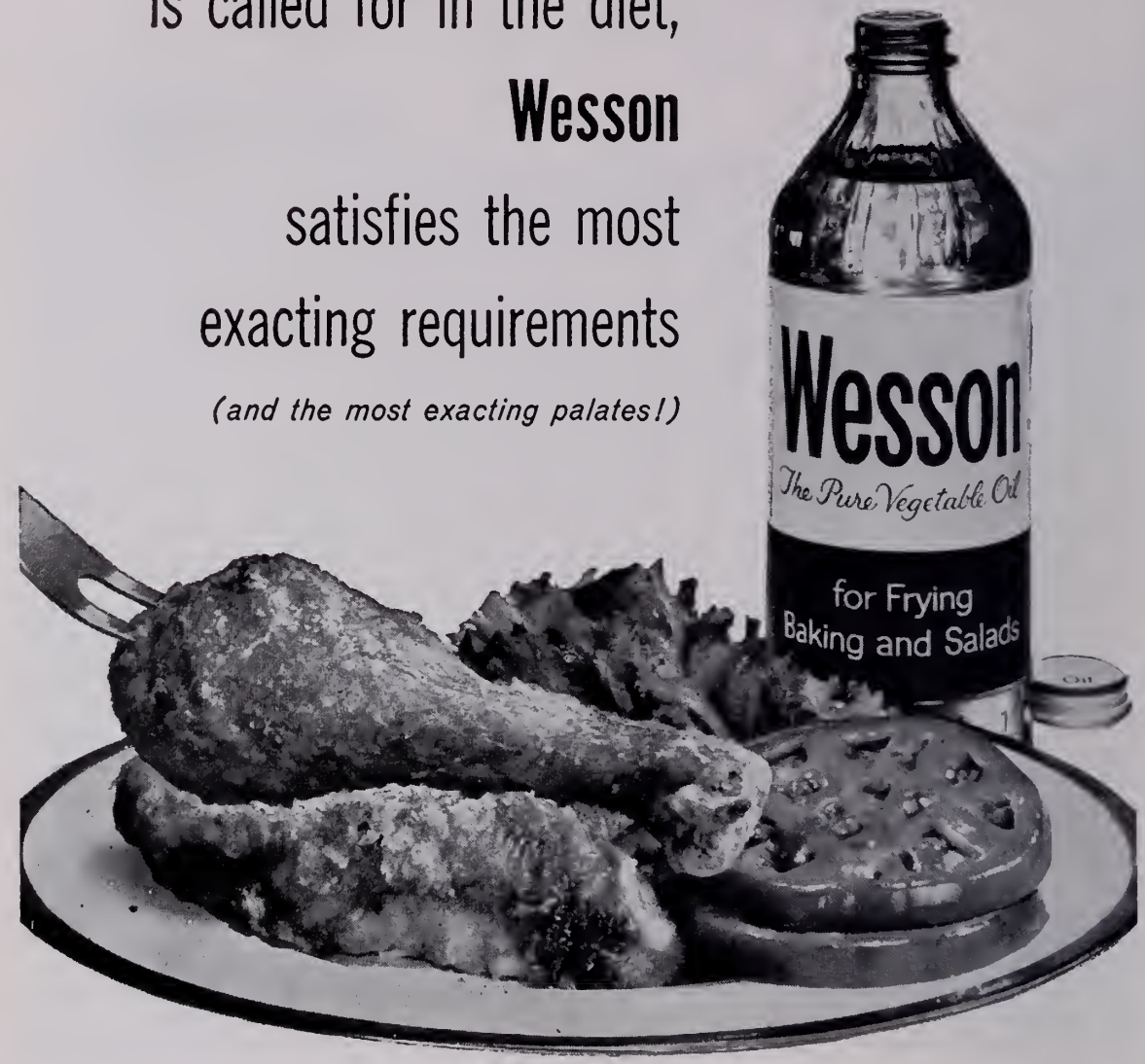
*Pratt, R. T. C., and McKenzie, W.: Anxiety States Following Vestibular Disorders, Lancet 2:347 (Aug. 16) 1958.

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Acetylsalicylic Acid	gr. 3½
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No. 1

Acetophenetidin	gr. 2½
Acetylsalicylic Acid	gr. 3½
Caffeine	gr. ½
Codeine Phosphate	gr. ⅛

No. 2

Acetophenetidin	gr. 2½
Acetylsalicylic Acid	gr. 3½
Caffeine	gr. ½
Codeine Phosphate	gr. ¼

No. 3

Acetophenetidin	gr. 2½
Acetylsalicylic Acid	gr. 3½
Caffeine	gr. ½
Codeine Phosphate	gr. ½

No. 4

Acetophenetidin	gr. 2½
Acetylsalicylic Acid	gr. 3½
Caffeine	gr. ½
Codeine Phosphate	gr. 1

*Subject to Federal Narcotic Regulations

...providing the desired gradation of potencies for relief of varying intensities of pain

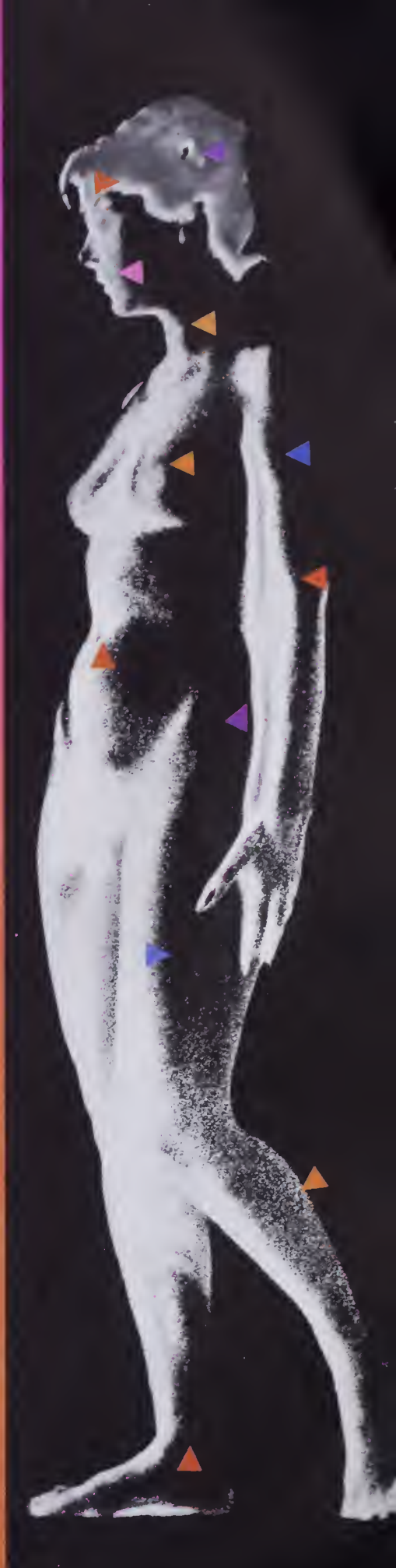
IN

simple headache
rheumatic conditions
arthralgias
myalgias
common cold
toothache
earache
dysmenorrhea
neuralgia
minor trauma
tension headache
premenstrual tension
minor surgery
post-partum pain
trauma
organic disease
neoplasm
muscle spasm
colic
migraine
musculo-skeletal pains
postdental surgery
post-partum involution
fractures
synovitis / bursitis

relief of pain of all degrees of severity up to that which requires morphine

AND IN

fevers
dry, unproductive coughs



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Your experience and trust throughout the years have established the wide use of the 'Empirin' family in medical practice— dependable analgesics for the effective relief of pain, fever, and cough—with safety.



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CASE HISTORY OF AN ARTHRITIC

Age: 55 Sex: Male Race: White

Diagnosis: Rheumatoid arthritis.

Previous Therapy:
40 mg. triamcinalone per day.

Complicating States:
Duodenal ulcer, steroid intoxication.

Current Therapy: ARTHROPAN Liquid.

Results: The patient improved on ARTHROPAN and "...is now on Choline Salicylate [ARTHROPAN] alone and has returned to work."[1]



SUPPLIED: 8 and 16 oz. bottles.
Each ml. of ARTHROPAN Liquid contains 174 mg. of Choline Salicylate.
Each teaspoonful (5 ml.) contains 870 mg. of Choline Salicylate.

1. Clark, G.M.: Personal Communication, 1958.

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BRAND OF CHOLINE SALICYLATE

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provides therapeutic sulfa levels for 24 hours... Highly soluble in acid and alkaline media... rapidly absorbed, producing fast, effective plasma-tissue concentrations sustained for the entire day. Simple, single 0.5 Gm. daily dose minimizes patient dosage confusion. At least equivalent to 4 to 6 Gms. daily of previous sulfonamides. Does not produce renal complications.[1]

with low incidence of sensitivity reactions... KYNEX is extremely low in toxic potential.[2,3] Cutaneous or other objective sensitivity reactions are rare, as demonstrated in a large scale evaluation of clinical toxicity.[2] Also minor subjective reactions are less likely to develop when the recommended dosage is used.[2]

Dosage: Adults, 0.5 Gm. (1 tablet) daily following an initial first-day dose of 1 Gm. (2 tablets).

TABLETS, 0.5 Gm., Bottles of 24 and 100.

also available—KYNEX Acetyl Pediatric Suspension, cherry-flavored, 250 mg. sulfamethoxypyridazine activity per teaspoonful (5 cc.). Bottles of 4 and 16 fl. oz.

1. Editorial, New England J. Med. 258:48, 1958.
2. Vinnicombe, J.: Antibiotic Med & Clin. Ther. 5:474, 1958.
3. Sheth, U. K., et al.: Ibid., p. 604, 1958.

for improved control

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KYNEX®

Sulfamethoxypyridazine Lederle

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An excellent salt replacement
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"Salt-Free" (Low Sodium) Diets

Contains potassium chloride, potassium glutamate, glutamic acid, calcium silicate, potassium iodide (0.01%).

2 oz. shakers and
8 oz. bottles

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New York 18, N.Y.

Assures patient's cooperation

Ideally Suited for Long-Term Therapy*



just two tablets at bedtime

After full effect one tablet suffices

Rauwiloid®

alseroxylon, 2 mg.

In Hypertension

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RAUWILOID provides effective Rauwolfia action virtually free from serious side effects... the smooth therapeutic efficacy of Rauwiloid is associated with a lower incidence of certain unwanted side effects than is reserpine... and with a lower incidence of depression. Tolerance does not develop.

RAUWILOID can be initial therapy for most hypertensive patients... Dosage adjustment is rarely a problem.

When more potent drugs are needed, prescribe one of the *convenient single-tablet combinations*

Rauwiloid®+Veriloid®

alseroxylon 1 mg. and alkavervir 3 mg.

or

Rauwiloid®+Hexamethonium

alseroxylon 1 mg. and hexamethonium chloride dihydrate 250 mg.

Many patients with severe hypertension can be maintained on Rauwiloid alone after desired blood pressure levels are reached with combination medication.

Riker

Northridge, California

new hope for fetal salvage

DELA

The results of administering Delalutin before the 12th week of gestation to 82 women with habitual abortion were reported recently by Reifenstein[1] in a compilation of data supplied by 45 investigators. Every patient had experienced at least three consecutive abortions immediately preceding the treated pregnancy. More than 68% of these women were delivered successfully and uneventfully following Delalutin therapy.

Boschann,[2] in a study of pregnancies with threatened abortion, found that:

37% of 73 pregnancies were carried to term without progestational therapy

64% of 42 pregnancies were salvaged by progesterone

83% of 73 pregnancies were salvaged by Delalutin

Eichner,[3] found that in Delalutin-treated women, fetal salvage of infants below term weight (1000 to 2000 gm.) was significan improved. 108 (76%) of 142 babies of t birth weight survived without mothers rec ing progestational therapy, while 16 (100 of 16 babies of this birth weight survived w mothers receiving Delalutin therapy. A c parison study was made of a group repeated aborters treated with Delalu and a group with a similar history trea with bed rest and sedation.[4] Pregna salvage with Delalutin was twice that of control group. Delalutin was found to "highly active", well-tolerated and lo acting.

According to Tyler and Olson,[5] "Th qualities of prolonged action and relat freedom from local reactions ma [Delalutin] a generally more desira therapeutic agent for intramuscular than progesterone . . . ."

DELALUTIN BABIES WHOSE MOTHERS WERE HABITUAL ABORTE



Mary Ann Cribben
Garden City, N. Y.



Amy Sue Greenman
Lincolnwood, Ill.



William Peller
Skokie, Ill.



Randy Sinis
Denver, Colo.



Richard Miller
Denver, Colo.



Scott Knud
Norwich, N

References: 1. Reifenstein, E. C. Jr.: *Annals N. Y. Acad. Sc.* 71:762 (July 30) 1958. 2. Boschann, H-W.: *ibid.*, p. 727. 3. Eichner, E.: *ibid.*, p. 787. 4. Hodgkinson, C. P.; Igna, E. J., and Bukeavich, A. P.: *Am. J. Obst. & Gynec.* 76:279, 1958. 5. Tyler, E. T., and Olson, H. J.: *J.A.M.A.* 169:1813, 1959.

LUTIN

improved progestational therapy

SQUIBB HYDROXYPROGESTERONE CAPROATE

DELALUTIN offers these advantages over other progestational agents:

- long-acting sustained therapy
- more effective in producing and maintaining a completely matured secretory endometrium
- no androgenic effect
- more concentrated solution requiring injection of less vehicle
- unusually well-tolerated, even in large doses
- fewer injections required
- low viscosity makes administration easier

DELALUTIN is also potent and safe therapy for: threatened abortion; postpartum afterpains; amenorrhea, primary and secondary; dysfunctional uterine bleeding not associated with genital malignancy; infertility with inadequate corpus luteum function; production of secretory endometrium and desquamation during estrogen therapy; premenstrual tension; dysmenorrhea; cyclomastopathy, mastodynia, adenosis and chronic cystic mastitis.

Administration and dosage:

Because of its low viscosity, Delalutin may be administered with a small gauge needle (deep intragluteal injection). Complete information on administration and dosage is supplied in the package insert.

Supply:

Delalutin is available in vials of 2 and 10 cc., each containing 125 mg. of hydroxyprogesterone caproate in sesame oil, and benzyl benzoate.

Each of these healthy, normal babies was born by a mother with a documented previous history of true habitual abortion, who was treated during her most recent pregnancy with DELALUTIN.



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Roselle, Ill.



Rosanne Guberman
Elmont, L.I., N. Y.



Kenneth Michael Simonson
Denver, Colo.



Daniel A. Fabrizio, Jr.
No. Massapequa, L.I., N. Y.



Joanne Verderosa
Seaford, N. Y.



J. Gettemy
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Karen Mary Nederman
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SQUIBB *Squibb Quality—the Priceless Ingredient*

'DELALUTIN'® IS A SQUIBB TRADEMARK.



whenever there is inflammation, swelling, pain

VARIDASE®

STREPTOKINASE-STREPTODORNASE LEDERLE

BUCCAL *Tablets*

conditions for a fast comeback... as in acute hemorrhoids...

SUNDAY, 9 A.M.: VARIDASE for painful thrombotic hemorrhoid. 2:30 P.M.: pain greatly reduced, less swelling and inflammation.

MONDAY: size down to small tab; acute inflammation disappeared.*

VARIDASE activates natural fibrinolytic factors, to limit undesirable inflammatory response and speed healing.

Dramatic reduction of pain is often the first sign of improvement; swelling and redness rapidly diminish. Drugs and natural regenerative factors readily penetrate the inflammatory barrier to effect total remission faster... in trauma or infection.

VARIDASE Buccal Tablets contain:
10,000 Units Streptokinase, 2,500 Units Streptodornase.
Supplied: Boxes of 24 and 100 tablets

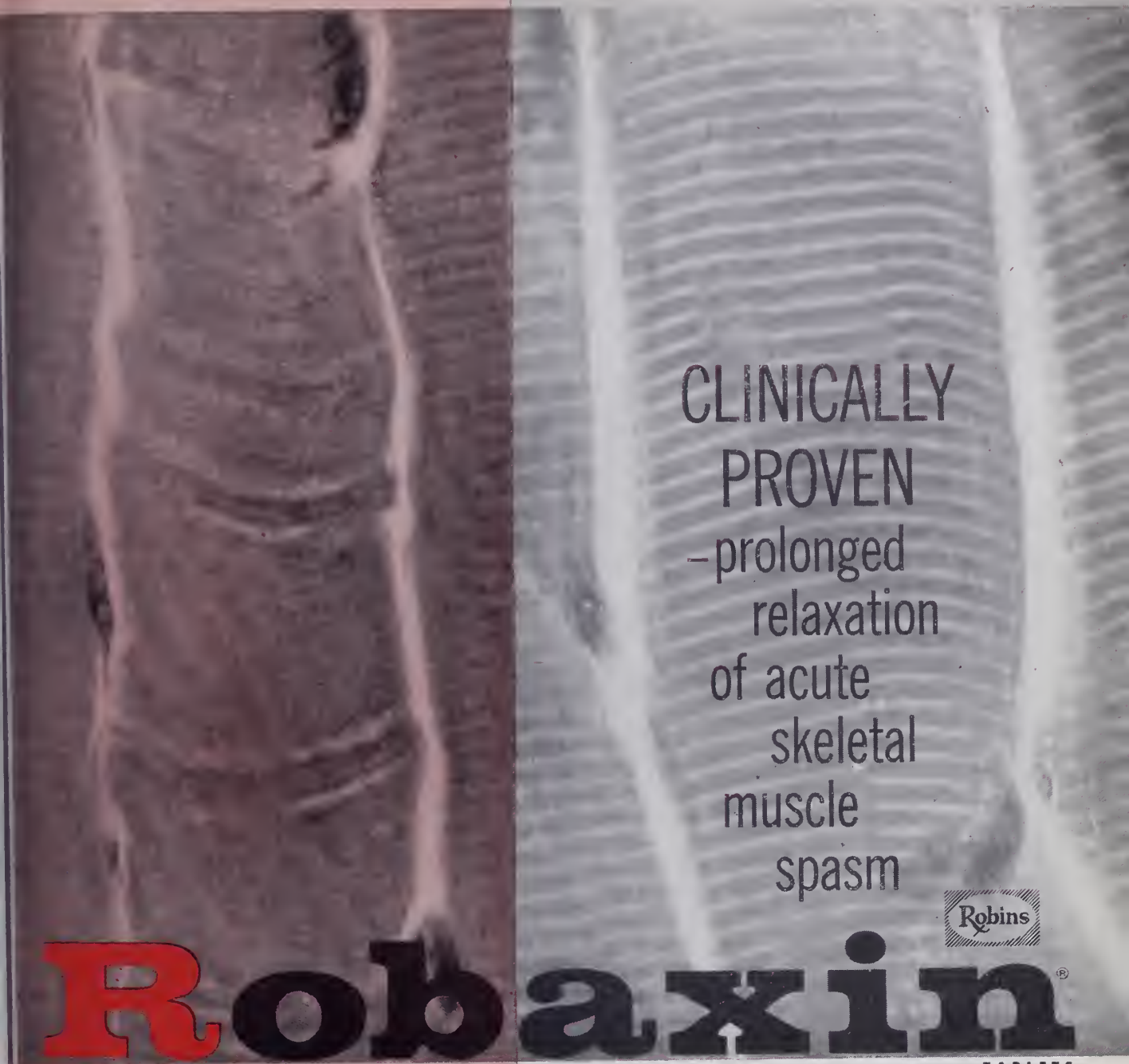
*Peterman, R. A.: Clinical report cited with permission.

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Fiber of skeletal muscle in spasm

Fiber of skeletal muscle relaxed *(photomicrographs)*



CLINICALLY PROVEN –prolonged relaxation of acute skeletal muscle spasm

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Robaxin®

TABLETS

Methocarbamol Robins U.S. Pat. No. 2770649

Summary of six published clinical studies:

ROBAXIN BENEFICIAL IN 92.4% OF SKELETAL MUSCLE SPASM CASES

	NO. PATIENTS	RESPONSE			
		"marked"	moderate	slight	none
Carpenter[1]	33	26	6	1	—
		"pronounced"			
Forsyth[2]	58	37	20	—	1
		"good"			
Lewis[3]	38	25	6	—	7
O'Doherty & Shields[4]	17	"excellent" 14	2	1	0
		"significant"			
Park[5]	30	27	—	2	1
		"gratifying"			
Plumb[6]	60	55	—	—	5
TOTALS	236	184 (78.0%)	34 (14.4%)	4	14

- **Highly potent—and long acting.**[1,2,3]
- **Relatively free of adverse side effects.**[1,2,3,5,6]
- **In ordinary dosage, does not reduce muscle strength or reflex activity.**[1]

REFERENCES: 1. Carpenter, E. B.: Southern M. J. 51:627, 1958. 2. Forsyth, H. F.: J.A.M.A. 167:163, 1958. 3. Lewis, W. B.: California Med. 90:26, 1959. 4. O'Doherty, D. S., and Shields, C. D.: J.A.M.A. 167:160, 1958. 5. Park, H. W.: J.A.M.A. 167:168, 1958. 6. Plumb, C. S.: Journal-Lancet 78:531, 1958.

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MICRONITE FILTER:

key to Kent's popularity

During the past year, Kent sales increased by 20-billion cigarettes—the greatest gain in popularity ever recorded by any filter cigarette in any year.

Undoubtedly much of the credit for this important rise in sales must go to Kent's exclusive "MICRONITE" Filter. This extraordinary new filter was constructed to take into account new principles of filtration which were dictated by the basic discoveries of a major research foundation, working under Lorillard sponsorship.

The foundation determined that the average puff of cigarette smoke contained over 12 billion semi-solid particles. Additional research revealed that inhaled smoke from ordinary cigarettes has a predominant proportion of particles, from 0.1 to 1 micron in diameter, average 0.6 micron.

Ordinary filter fibers are so large that they create spaces through which the small semi-solid smoke particle can easily pass. However, in the exclusive Kent filter, the fibers are mechanically manipulated in such a manner as to create extremely tortuous passageways for the smoke. In this maze-like network of superfine fibers the smoke particle has much less chance to slip through the filter.

Thus, Lorillard research created a filter which reduced tars and nicotine in the "inhaled" smoke to the lowest level among the largest selling brands. As smokers learned about the "MICRONITE" Filter, they changed to Kent. During the past year, for instance, more smokers changed to Kent than to any other cigarette in America.



If you would like for your own use the booklet, "The Story of Kent," write to:

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Research Department
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A Product of P. Lorillard Company—First with the finest cigarettes—through Lorillard Research!

Open To All Physicians . . .



1959 Symposia

OKLAHOMA CITY, OKLAHOMA
Fri., Oct. 2, 1959, The Skirvin Hotel

BIRMINGHAM, ALABAMA
Sun., Oct. 11, 1959, The Dinkler-Tutwiler Hotel

TACOMA, WASHINGTON
Wed., Oct. 14, 1959, The Hotel Winthrop

TRAVERSE CITY, MICHIGAN
Fri., Oct. 23, 1959, The Park Place Hotel

LUBBOCK, TEXAS
Sat., Oct. 31, 1959, The Lubbock Country Club

ST. CHARLES, ILLINOIS
Wed., Nov. 4, 1959, The St. Charles Country Club

DALLAS, TEXAS
Fri., Nov. 6, 1959, The Hilton Hotel

WICHITA, KANSAS
Sat., Nov. 7, 1959, The Hotel Broadview

SCHENECTADY, NEW YORK
Thurs., Nov. 12, 1959, The Mohawk Golf Club

CORPUS CHRISTI, TEXAS
Fri., Nov. 13, 1959, The Robert Driscoll Hotel

RIVERSIDE, CALIFORNIA
Sun., Nov. 15, 1959, The Mission Inn

SANTA BARBARA, CALIFORNIA
Wed., Nov. 18, 1959, The Santa Barbara Biltmore

MOLINE, ILLINOIS
Wed., Dec. 2, 1959, The LeClaire Hotel

1960 Symposia (incomplete schedule)

DENVER, COLORADO
Sun., Jan. 10, 1960, The Cosmopolitan Hotel

AUSTIN, TEXAS
Fri., Jan. 15, 1960, The Commodore Perry

POCATELLO, IDAHO
Sat., April 2, 1960, The Bannock Hotel

MOORHEAD, MINNESOTA
Sat., April 9, 1960, The Frederick Martin Hotel

SALT LAKE CITY, UTAH
Fri., April 22, 1960, Hotel Utah

ST. LOUIS, MISSOURI
Sun., May 1, 1960, Chase-Park Plaza

SANTA ROSA, CALIFORNIA
Fri., Sept. 16, 1960, The Flamingo Hotel

GREAT FALLS, MONTANA
Sat., Oct. 22, 1960, The Rainbow Hotel

CHARLESTON, WEST VIRGINIA
Sun., Oct. 30, 1960, The Daniel Boone Hotel

In cooperation with medical organizations throughout the United States, Lederle continues to offer aid to post-graduate medical education through its Symposium program. Upon completion of the schedule above the number of Symposia presented will exceed 200 since the first meeting, sponsored by the Knoxville (Tenn.) Academy of Medicine eight years ago. Each meeting presents prominent authorities discussing important advances in clinical medicine and surgery. Activities are also planned for physicians' wives.

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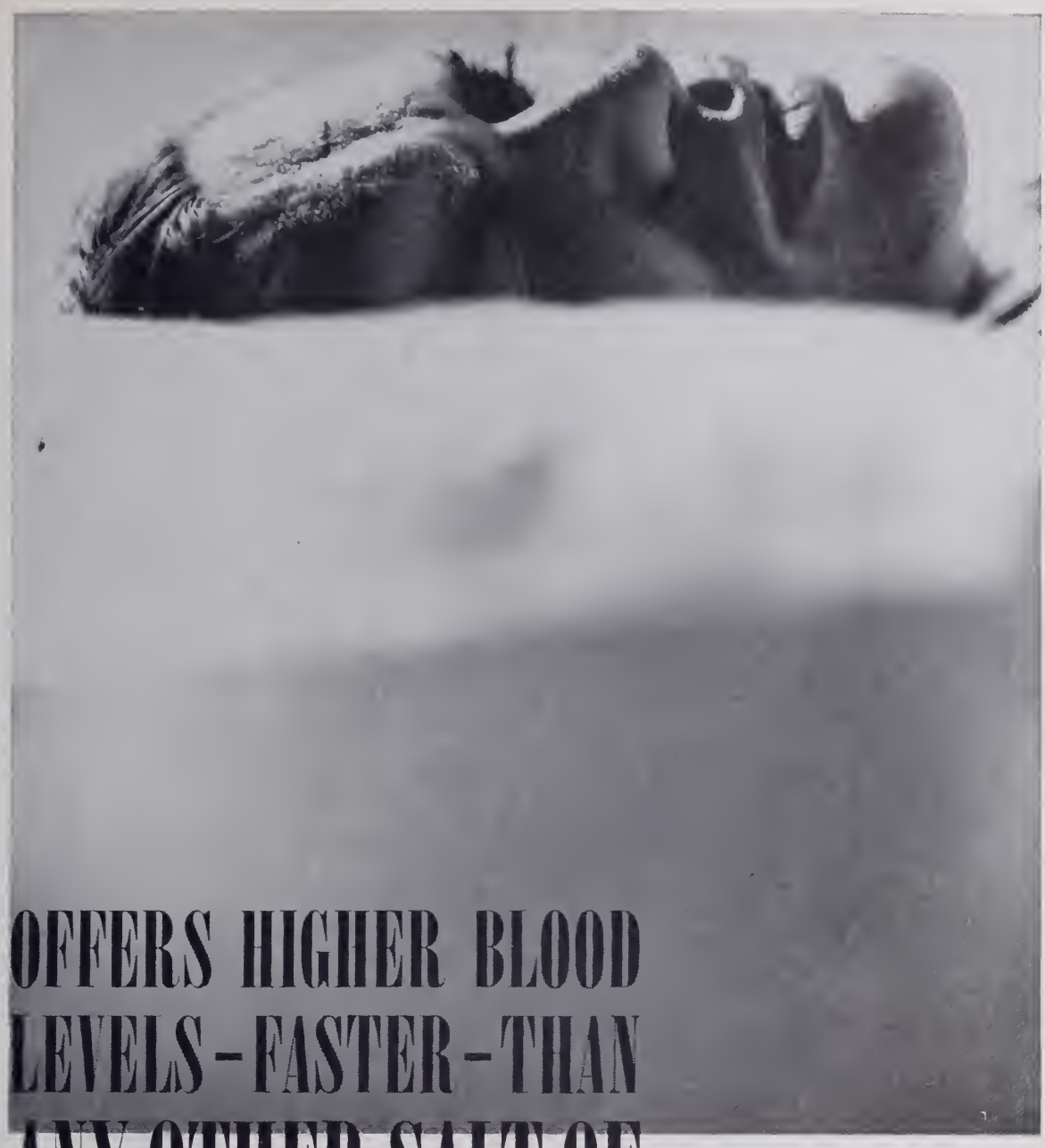
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"Good for you!"

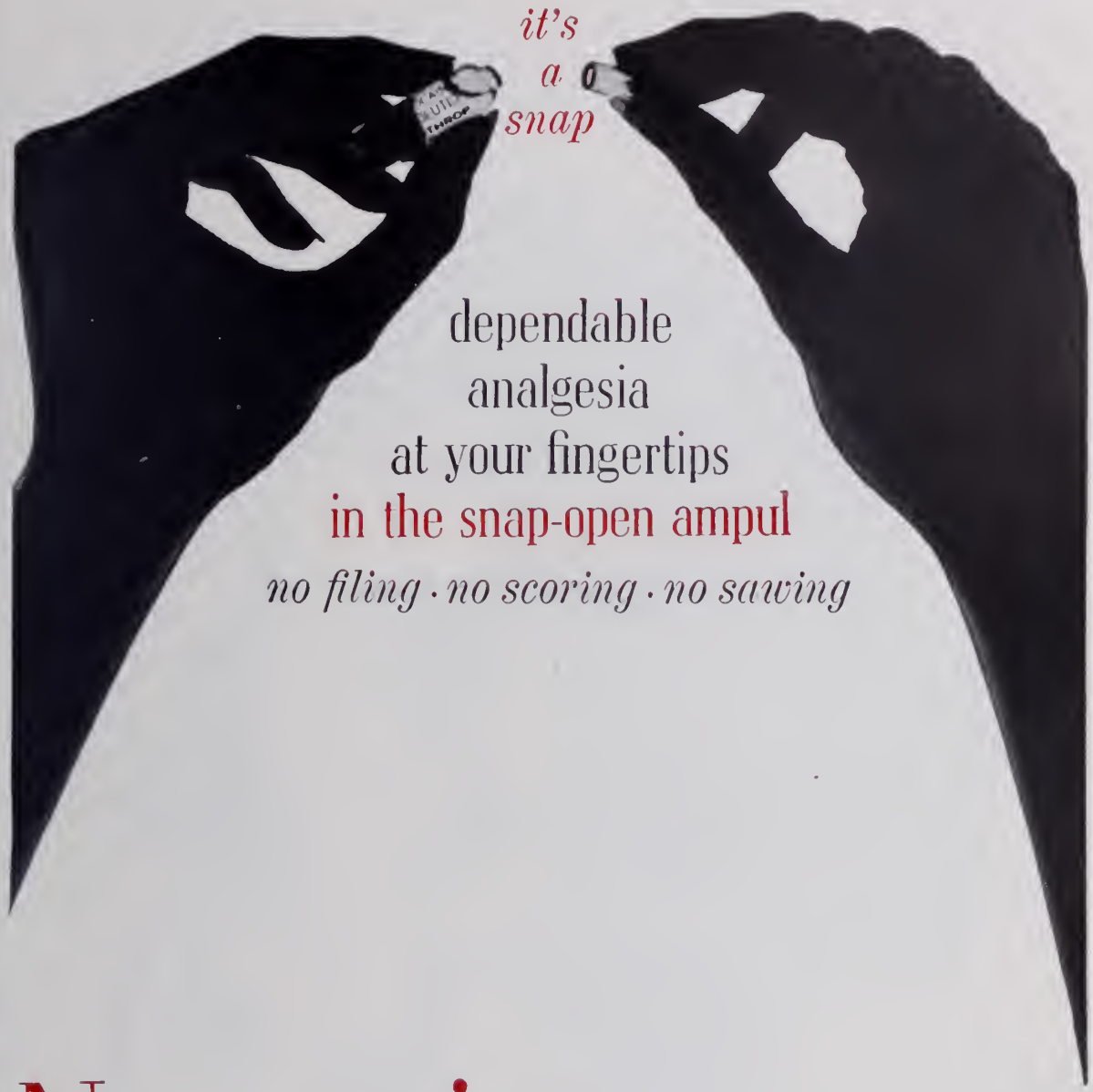
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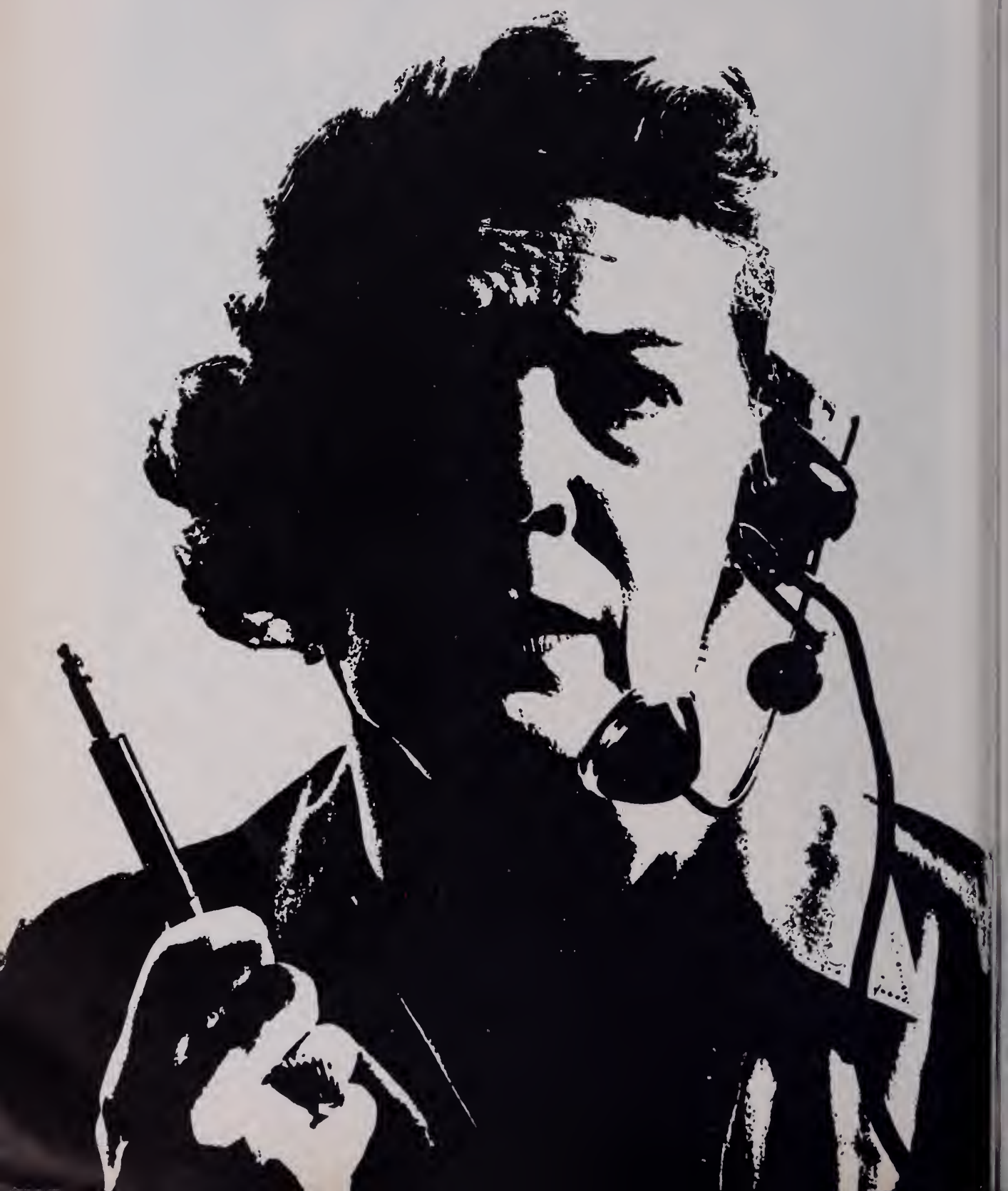
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meprobamate with PATHILON® tridihexethyl chloride Lederle

for relieving tension and curbing hypermotility and excessive secretion in G. I. disorders

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meprobamate (400 mg. or 200 mg.)—a tranquilizer and muscle-relaxant widely accepted for the effective management of tension and anxiety

PATHILON (25 mg.)—an anticholinergic long noted for producing prompt symptomatic relief through peripheral, atropine-like action, yet with few side effects

now available...

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200 mg. meprobamate • 25 mg. PATHILON

for more flexible control of G. I. trauma and tension
smooth, sugar-coated, easy-to-swallow

PATHIBAMATE-400 and PATHIBAMATE-200 are indicated for duodenal ulcer; gastric ulcer; intestinal colic; spastic and irritable colon; ileitis; esophageal spasm; anxiety neurosis with gastrointestinal symptoms and gastric hypermotility.

Supplied: PATHIBAMATE-400—Each tablet (yellow, 1/2-scored) contains meprobamate, 400 mg.; PATHILON tridihexethyl chloride 25 mg.

PATHIBAMATE-200—Each tablet (yellow, coated) contains meprobamate, 200 mg.; PATHILON tridihexethyl chloride, 25 mg.

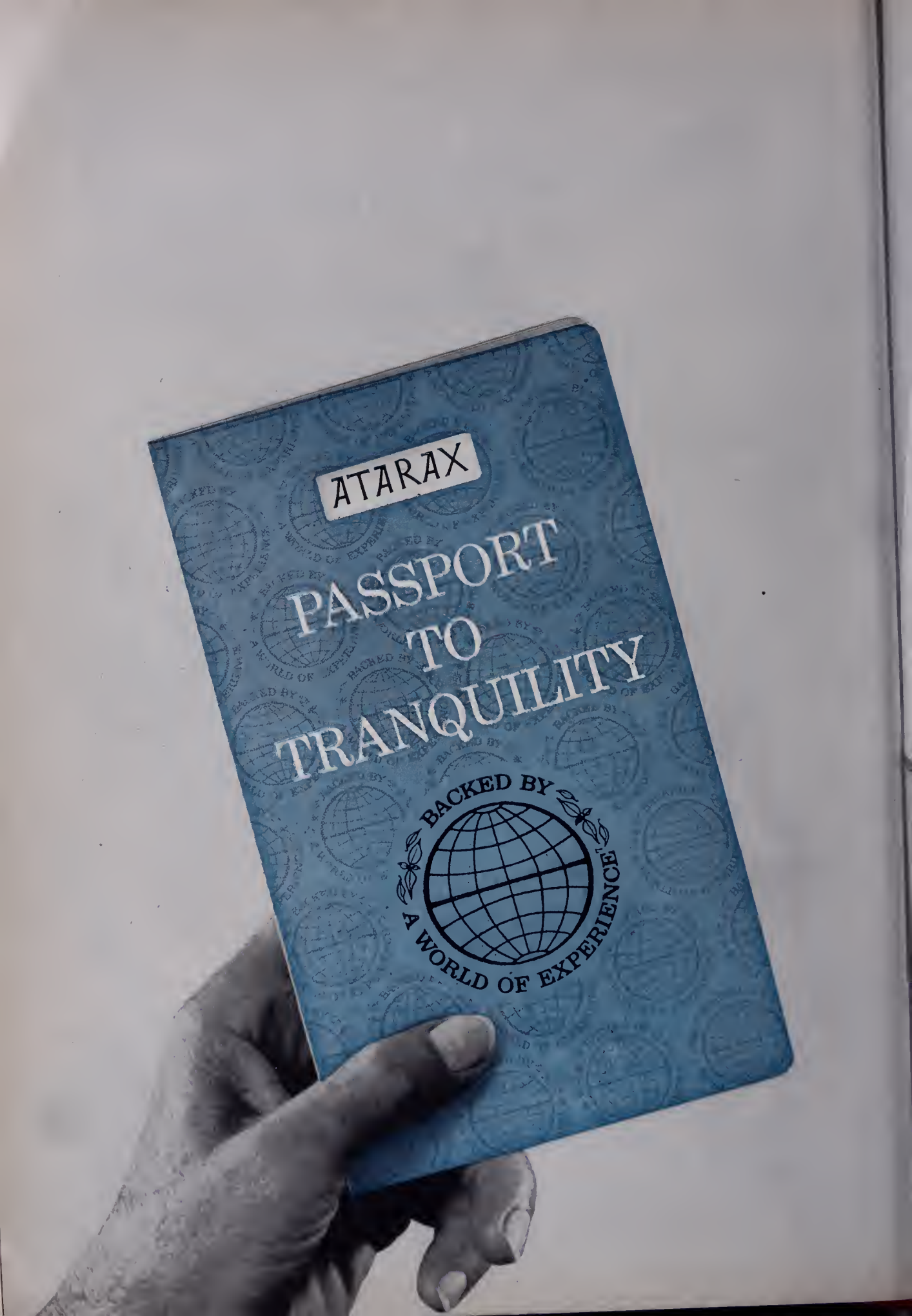
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Adjust dosage to patient response.

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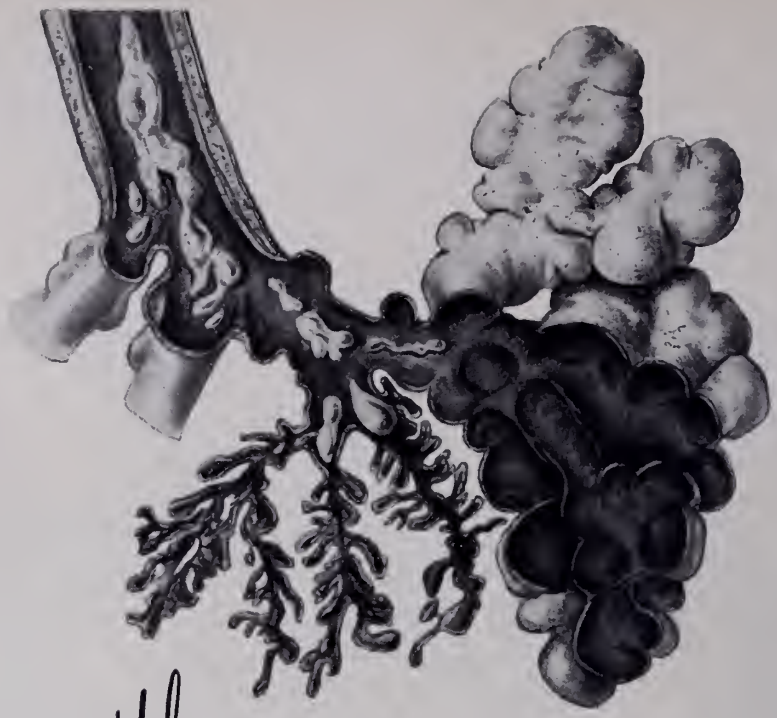
References: 1. Farah, L.: Internat. Rec. Med. *169*:379 (June) 1956. 2. Smigel, J. O., et al.: J. Am. Geriatrics Soc. 7:61 (Jan.) 1959. 3. Feinberg, A. R., et al.: J. Allergy *29*:358 (July) 1958. 4. Eisenberg, B. C.: J.A.M.A. *169*:14 (Jan. 3) 1959. 5. Maryssael, L.: Bruxelles-méd. *38*:141 (Jan. 26) 1958. 6. Pfleger, R.: Med. Klin. *53*:1030 (June 5) 1958. 7. Over 200 laboratory and clinical papers from 14 countries.

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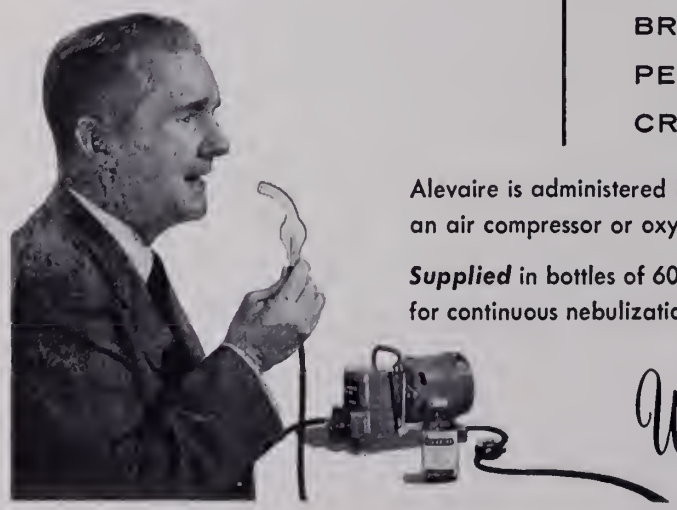
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in angina pectoris

NIAMID, in intensive clinical tests, has proved to have a high degree of safety and to be a valuable adjunct in the management of the anginal syndrome. NIAMID produces striking symptomatic improvement in angina patients—markedly reduces the pain, severity and frequency of anginal episodes, reduces nitroglycerin requirements, and provides an increased sense of well-being. Since dramatic improvement is seen in some patients, it is wise to advise the patient against overexertion—his disorder still holds potential dangers despite relief of symptoms.

DOSAGE: Start with 75 mg. daily in single or divided doses. After a week or more, adjust the dosage, depending upon patient response, in steps of one or one-half 25 mg. tablet. Once improvement is seen, gradually reduce dosage to the maintenance level. Many patients respond to NIAMID within a few days, others in 7 to 14 days. A few patients may require as much as 200 mg. daily over a longer period of time before significant improvement is seen.

PRECAUTIONS: Side effects are infrequent and mild, and often lessened or eliminated by a reduction in dosage. Hypotensive effects have rarely been noted and no jaundice or other evidence of liver damage has been reported in patients receiving NIAMID. However, in patients with a history of liver disease, the possibility of hepatic reactions should be kept in mind.

SUPPLY: NIAMID is available as 25 mg. (pink) and 100 mg. (orange) scored tablets.

Already clinically proved in several thousand patients—

Complete references and a Professional Information Booklet giving detailed information on NIAMID are available on request.

Pfizer *Science for the world's well-being*

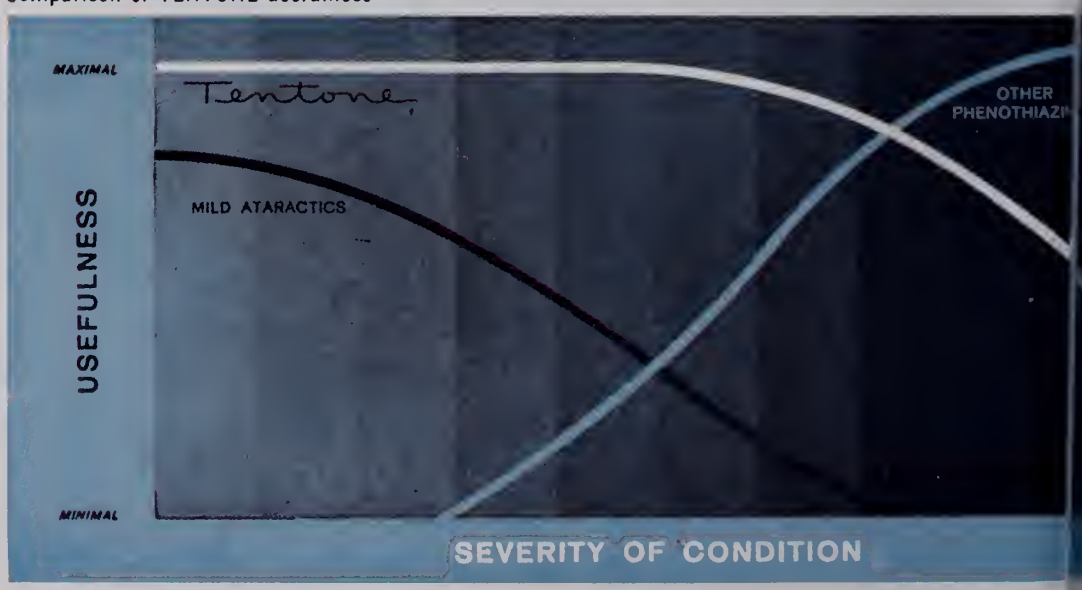
*Trademark for brand of nialamide

PFIZER LABORATORIES, Division, Chas. Pfizer & Co., Inc., Brooklyn 6, New York



new... highly effective tranquiliz

Comparison of TENTONE usefulness



. for extended office practice use

Tentone

Methoxypromazine Maleate

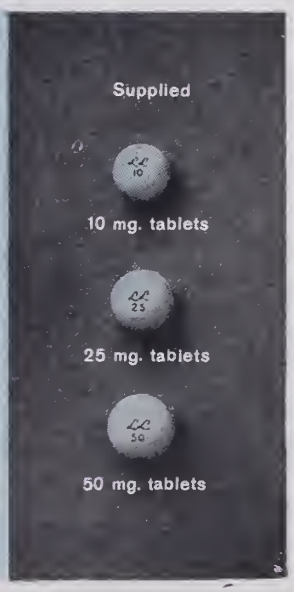
LEDERLE

NEW PHENOTHIAZINE COMPOUND FOR THE LOWER AND MIDDLE RANGE OF DISORDERS

◆ Positive, rapid calming effect in mild and moderate cases. ◆ Striking freedom from organic toxicity, intolerance, or sensitivity reaction—particularly at low dosage. ◆ Greater freedom from induced depression or drug habituation. ◆ May be useful, as with other tranquilizers, to potentiate action of analgesics, sedatives, narcotics. ◆ Facilitates management of surgical, obstetric, and other hospitalized patients. ◆ Indicated when more than a mild sedative effect is desired...and less than psychosis is involved. ◆ Dosage range: *In mild to moderate cases:* from 30 to 100 mg. daily. *In moderate to severe cases:* from 75 to 500 mg. daily.

LEDERLE LABORATORIES, a Division of **AMERICAN CYANAMID COMPANY,** Pearl River, New York

Lederle



Announcing

'ACTIFED'®

Decongestant / Antihistamine

THE POTENTIATED DECONGESTANT



provides symptomatic relief of nasal congestion and rhinorrhea of allergic or infectious origin Many patients whose symptoms are inadequately controlled by decongestants or antihistamines alone respond promptly and favorably to 'ACTIFED'.

'ACTIFED' contains:	in each Tablet	in each tsp. Syrup
'Actidil'® brand Triprolidine Hydrochloride	2.5 mg.	1.25 mg.
'Sudafed'® brand Pseudoephedrine Hydrochloride	60 mg.	30 mg.

safe and effective for patients of all ages suffering from respiratory tract congestion

DOSAGE

	TABLETS	SYRUP (5 cc. tsp.)	
Adults and older children	1	2	three times daily
Children 4 months to 6 years of age	½	1	
Infants through 3 months	–	½	

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, New York



the disease of many masks

Doctor, do you recognize this patient? She complains of flatulence, constipation with alternating periods of diarrhea, and colicky pains in the lower right quadrant. At other times she is troubled by anorexia, lassitude, dull headache, muscle pains and backache. Or she may have only one or two of these symptoms.

In these puzzling cases, serious consideration should be given to intestinal amebiasis—the disease of many masks. Clinicians say it is "one of the most widespread and serious protozoan diseases of man," yet "there is no parasite more often misdiagnosed than is *E. histolytica*." Conservative estimates place the incidence at 10% of the United States population as a whole, and 16% in southern states.

Now Glarubin, a relatively non-toxic amebicide, simplifies the treatment of suspected cases of intestinal amebiasis. Glarubin, a crystalline glycoside from the fruit of *Simarouba glauca*, is a specific amebicidal agent with minimal side effects. It contains no arsenic, bismuth or iodine.

Glarubin is administered orally in tablet form and does not require strict medical supervision or hospitalization. Extensive clinical trials prove it highly effective in intestinal amebiasis, and virtually free of toxicity.

Supplied in bottles of 40 tablets, each tablet containing 50 mg. of glaucarubin. Write for descriptive literature, bibliography, and dosage schedules.

new Glarubin

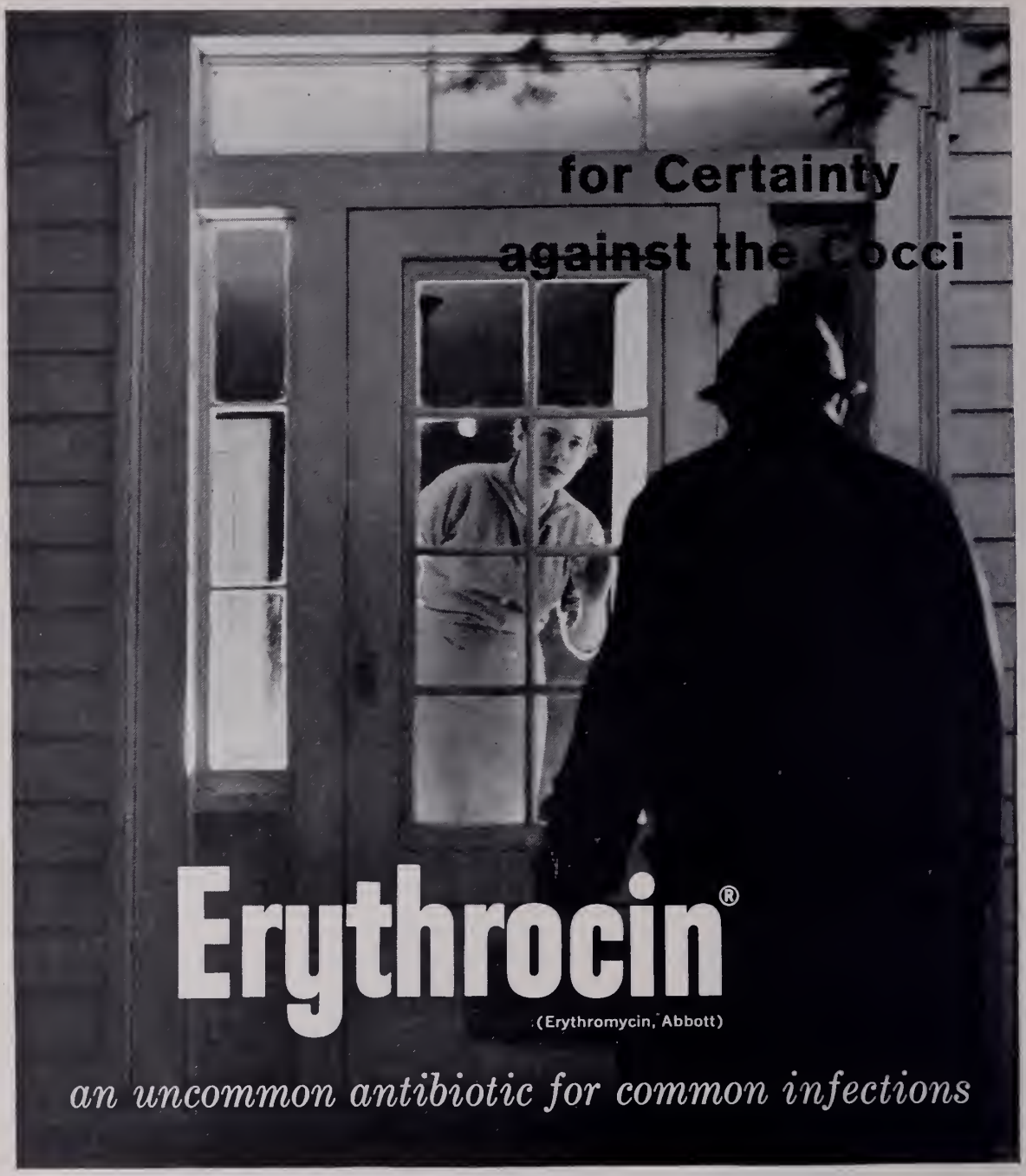
TABLETS

specific for intestinal amebiasis

THE S. E. MASSENGILL COMPANY

BRISTOL, TENNESSEE

NEW YORK • KANSAS CITY • SAN FRANCISCO



Provides fast, high blood and tissue concentrations—plus an unparalleled safety record. Erythrocin is available in easy-to-swallow Filmtabs® (100 and 250 mg.); in tasty, citrus-flavored Oral Suspension (200 mg. per 5-cc. teaspoonful); and for intravenous and intramuscular use.

ABBOTT

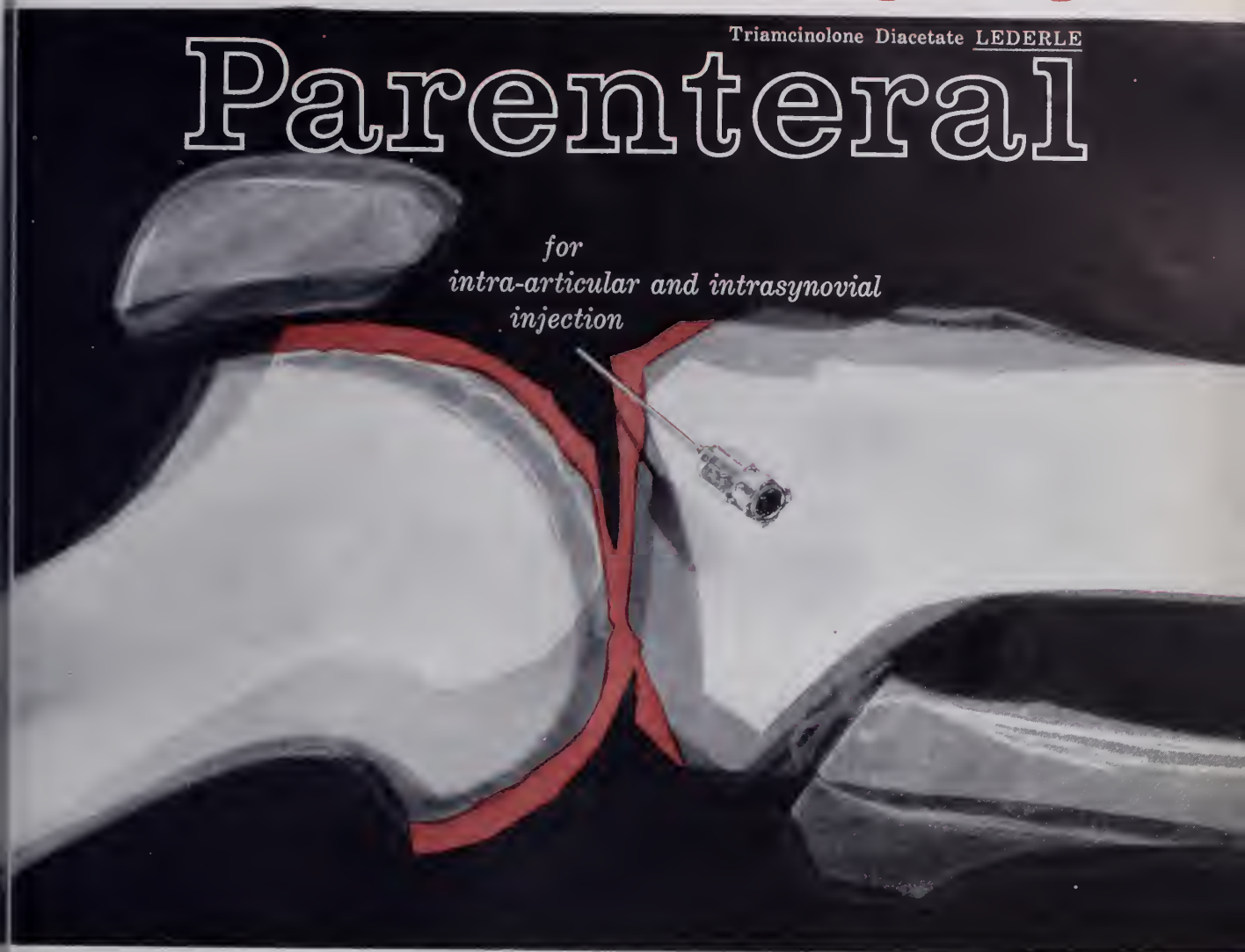
®FILMTABS—FILM-SEALED TABLETS. ABBOTT, U.S. PAT. NO. 2,881,085

909132

New Aristocort®

Triamcinolone Diacetate LEDERLE

Parenteral



for
intra-articular and intrasynovial
injection

for *longer* and *more pronounced* anti-inflammatory action in the *shortest time*

when systemic therapy is contraindicated • when systemic corticosteroids produce serious side effects to secure quick relief in one or two joints • for use in conjunction with orthopedic procedures

Indications: rheumatoid arthritis; osteoarthritis; bursitis; peritendinitis; ganglion; intermittent hydroarthrosis; epicondylitis and related conditions.

ARISTOCORT Parenteral contains: 25 mg. per cc. of ARISTOCORT® Triamcinolone Diacetate micronized; polysorbate 80 U.S.P. 0.10%; benzyl alcohol 0.95%; benzalkonium chloride 0.01%; sorbitol solution N.F. 84.83%, and water for injection q.s. 100%.

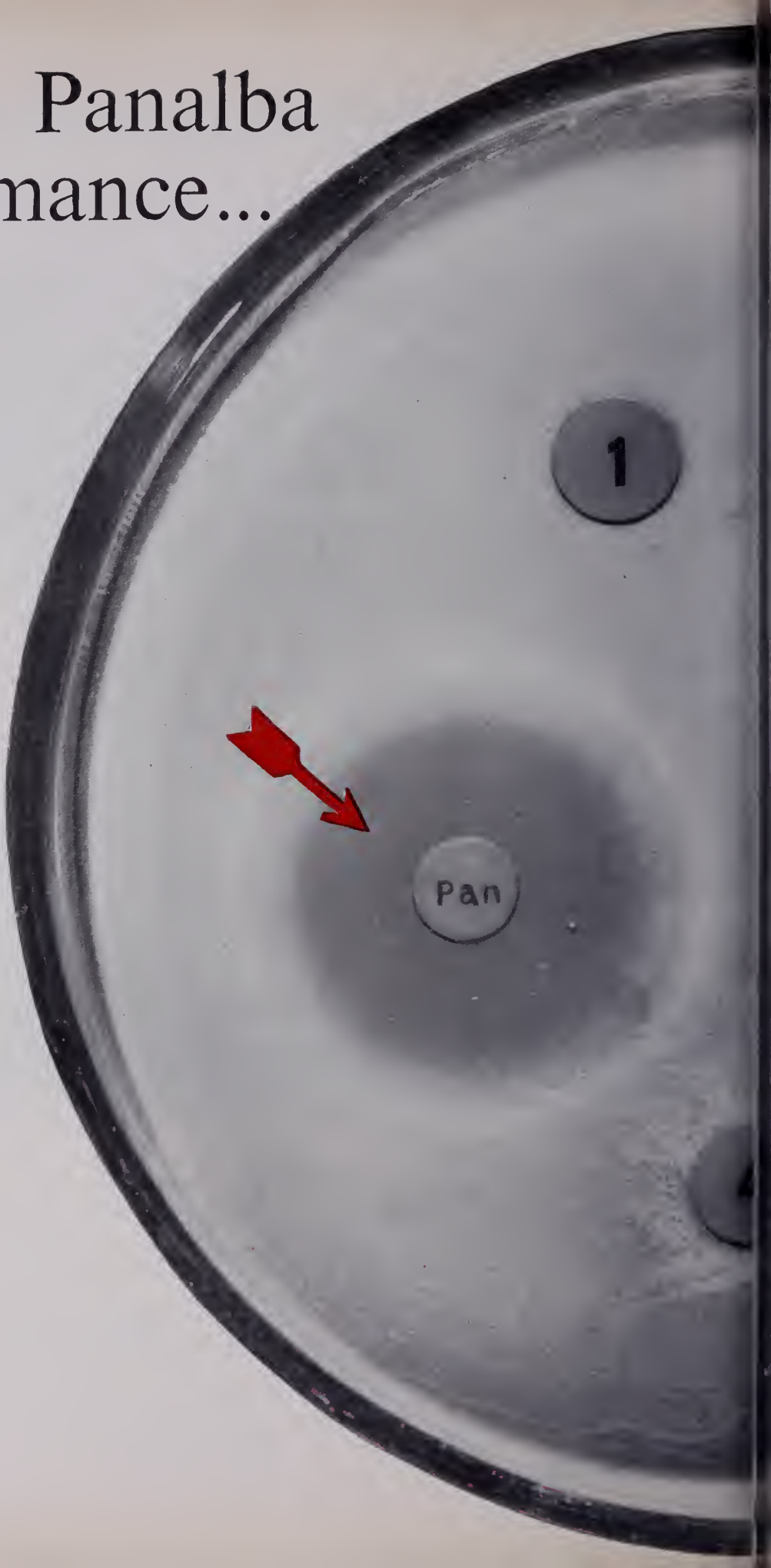
All precautions required for intra-articular and intrasynovial administration of other corticosteroids should also be observed with ARISTOCORT Parenteral.

Complete information on dosage and administration is included in the package circular.

Supply: Vials of 5 cc. (25 mg. per cc.)

Lederle LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

This is Panalba performance...





in pneumonia

. . . into a mixed culture of the three organisms commonly involved in pneumonia . . . *K. pneumoniae*, *Diplococcus pneumoniae*, and *Staphylococcus aureus* (in this case a resistant strain) . . . we introduce the five most frequently used antibiotics.

Twenty-four hours later (in this greatly enlarged photograph), note that only *one* of the five leading antibiotics has stopped *all* the organisms, including the resistant staph! This is Panalba.

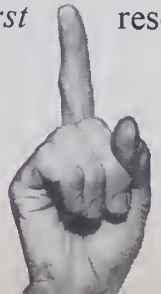
In your next pneumonia patient . . . in *all* your patients with potentially-serious infections . . . provide this extra protection with your prescription :

Dosage—1 or 2 capsules 3 or 4 times a day.
Supplied—Capsules containing Panmycin phosphate equivalent to 250 mg. tetracycline hydrochloride, and 125 mg. Albamycin as novobiocin sodium, in bottles of 16 and 100.
Now available: new Panalba Half-Strength Capsules in bottles of 16 and 100.

Panalba*

(Panmycin* Phosphate plus Albamycin*)

The broad-spectrum antibiotic of *first* resort



Upjohn The Upjohn Company Kalamazoo, Michigan

*TRADEMARK, REG. U. S. PAT. OFF.

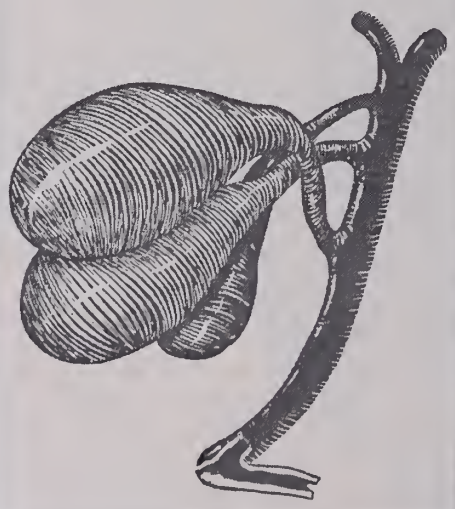
AN AMES CLINIQUICK™

CLINICAL BRIEFS FOR MODERN PRACTICE

HOW PREVALENT ARE MULTIPLE GALLBLADDER ANOMALIES?

One hundred and twenty-two cases of *vesica fellea divisa* (bilobed gallbladder) and *vesica fellea duplex* (double gallbladder with 2 cystic ducts) are reported in the literature. A unique case of *vesica fellea triplex* has recently been described.

Source: Skilboe, B.: Am. J. Clin. Path. *30*:252, 1958.



in medical management and postoperative care of biliary disorders...

"effective" hydrocholeresis...

DECHOLIN®

(dehydrocholic acid, AMES)

"...dehydrocholic acid...does considerably increase the volume output of a bile of relatively high water content and low viscosity. This drug is therefore a good 'flusher,' and is effectively used in treating both the chronic unoperated patient and the patient who has a T-tube drainage of an infected common bile duct."[1]

free-flowing bile
plus reliable spasmolysis

DECHOLIN® WITH BELLADONNA

"...DECHOLIN/Belladonna in a dosage of one tablet t.i.d. for a period of two to three months may prove helpful in relieving postoperative symptoms, aiding the digestion, and facilitating elimination."[2]

(1) Beckman, H.: Drugs: Their Nature, Action and Use. Philadelphia, W. B. Saunders Company, 1958, p. 425.
(2) Biliary Tract Diseases, M. Times *85*:1081, 1957.

AMES COMPANY, INC
Elkhart • Indiana
Toronto • Canada

64659


extra
active
Lederle introduces a masterpiece of antibiotic design

Strikingly enhances the traditional advantages of broad-spectrum antibiotics...

for greater patient-physician benefit

DECLOMYCIN is a unique fermentation product of a strain of *Streptomyces aureofaciens*—the parent organism of AUREOMYCIN®* and ACHROMYCIN.®†

DECLOMYCIN singularly achieves:

- far greater antibiotic activity with far less drug
- greater stability in body media
- unrelenting peak activity throughout therapy
- "extra-day" protection through sustained activity

DECLOMYCIN retains:

- unsurpassed broad-spectrum range of activity
- rapid activity
- excellent toleration
- effectiveness against infection in nearly all organs or systems—rapid diffusion in body tissues and fluids

**Chlortetracycline Lederle* †*Tetracycline Lederle*

DECLO

Demethylchlortetracycline Lederle

Far greater antibiotic activity with far less antibiotic

Milligram for Milligram, DECLOMYCIN exhibits 2 to 4 times the clinical potency (inhibitory action) of tetracycline against susceptible organisms. Thus, DECLOMYCIN has the advantage of providing significantly higher serum *activity* levels with significantly reduced drug intake.* [1,3,5]

Actually, DECLOMYCIN demonstrates the highest ratio of prolonged activity level to daily milligram intake of any known broad-spectrum antibiotic. Reduction of milligram intake of drug reduces hazards of related physical effect on intestinal mucosa or interaction with gastrointestinal contents.

*Activity level is a far more meaningful basis of comparison than quantitative blood levels, as Hirsch and Finland note. Action upon pathogens is the ultimate value.[1]

MYCIN



Unrelenting peak antimicrobial attack throughout therapy

The high level of DECLOMYCIN activity is uniquely sustained. It is not just an initial phenomenon but is constant—maintained on each day of treatment and between doses—without noticeable diminution of intensity. Peak-and-valley control is eliminated, favoring continuous suppression of pathogens and consequent improvement.

This DECLOMYCIN constant is achieved through remarkably greater stability in body fluids,[2,4,6] resistance to degradation[6] and a low rate of renal clearance[4,5]—all supporting antibiotic activity for extended periods.

DECLO

Demethylchlortetracycline Lederle

"Extra-day" activity for security against relapse

DECLOMYCIN maintains significant antibacterial activity for one to two days after discontinuance of dosage[1]—a major distinction from other antibiotics. Previous drugs have declined abruptly in activity following withdrawal.

DECLOMYCIN thus gives the patient an unusual degree of protection against resurgence of the primary infection, and against secondary infection... sequelae not infrequently encountered and often resembling a "resistance problem." Consequently, reinstitution of therapy or a change in therapy should rarely be necessary.

MYCIN



A masterpiece of



greater antibiotic activity

with far less antibiotic intake

unrelenting peak attack

—enhancing the unsurpassed features of tetracycline . . . for greater physician-patient benefits

DECLO

Demethylchlortetracycline Lederle

antibiotic design

plus
"extra-
day"
activity

FOR PROTECTION
AGAINST
RELAPSE



)MYCIN

A major contribution of Lederle research



in the distinctive dry-filled duotone capsule

DECLOMYCIN®

Demethylchlortetracycline Lederle

immediately available as:

DECLOMYCIN Capsules, 150 mg.
Adult dosage: 1 capsule four times daily.

1. Hirsch, H. A., and Finland, M.: Antibacterial Activity Of Serum Of Normal Subjects After Oral Doses of Demethylchlortetracycline, Chlortetracycline and Oxytetracycline. *New England J. Med.* 260:1099 (May 28) 1959. 2. Hirsch, H. A., Kunin, C. M., and Finland, M.: Demethylchlortetracycline – A New And More Stable Tetracycline Antibiotic That Yields Greater and More Sustained Antibacterial Activity. To be published. 3. Lichter, E. A., and Sobel, S.: The Distribution Of Oral Demethylchlortetracycline In Healthy Volunteers And In Patients Under Treatment For Various Infections. To be published. 4. Kunin, C. M., Dornbush, A. C. and Finland, M.: Distribution And Excretion Of Four Tetracycline Analogues In Normal Young Men. To be published. 5. Kunin, C. M., and Finland, M.: Demethylchlortetracycline: New Tetracycline Antibiotic That Yields Greater and More Sustained Antibacterial Capacity. *New England J. Med.* 259:999 (Nov. 28) 1958. 6. Sweeney, W. M.; Hardy, S. M.; Dornbush, A. C., and Ruegsegger, J. M.: Demethylchlortetracycline: A Clinical Comparison of A New Antibiotic with Chlortetracycline and Tetracycline. *Antibiotics & Chemotherapy* 9:13 (Jan.) 1959.

Rx

Declomycin Caps
150 mg.
Disp # XVI
Sig 1 cap q.i.d.

LEDERLE LABORATORIES,
a Division of AMERICAN CYANAMID COMPANY
Pearl River, New York

Lederle



Bed of Digitalis purpurea
with Campanula (Canterbury Bells) in foreground

Not far from here are manufactured
from the powdered leaf
Pil. Digitalis (Davies, Rose)
0.1 Gram (1½ grains) or 1 U.S.P. Digitalis Unit.
They are physiologically standardized,
with an expiration date on each package.
Being Digitalis in its completeness,
this preparation comprises the
entire therapeutic value of the drug.
It provides the physician with a safe and effective
means of digitalizing the cardiac patient
and of maintaining the necessary saturation.
Security lies in prescribing the
"original bottle of 35 pills, Davies, Rose."

Clinical samples and literature sent to physicians on request

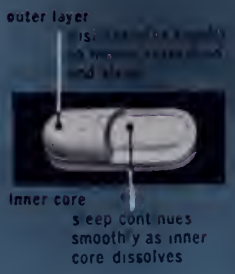
Davies, Rose & Co., Ltd. Boston 18, Mass.

D 27

For those patients who complain

carries your patients through the middle of the night





Each Nebralin timed-release tablet contains:

Dorsital* ..... 90 mg.
Warning: May be habit forming

Mephenesin ..... 425 mg.

*Dorsey brand of pentobarbital

CAUTION: Federal law prohibits dispensing without prescription

Dosage: One or two tablets ½ hour before retiring

about waking up at 2 A.M.



nebralin®

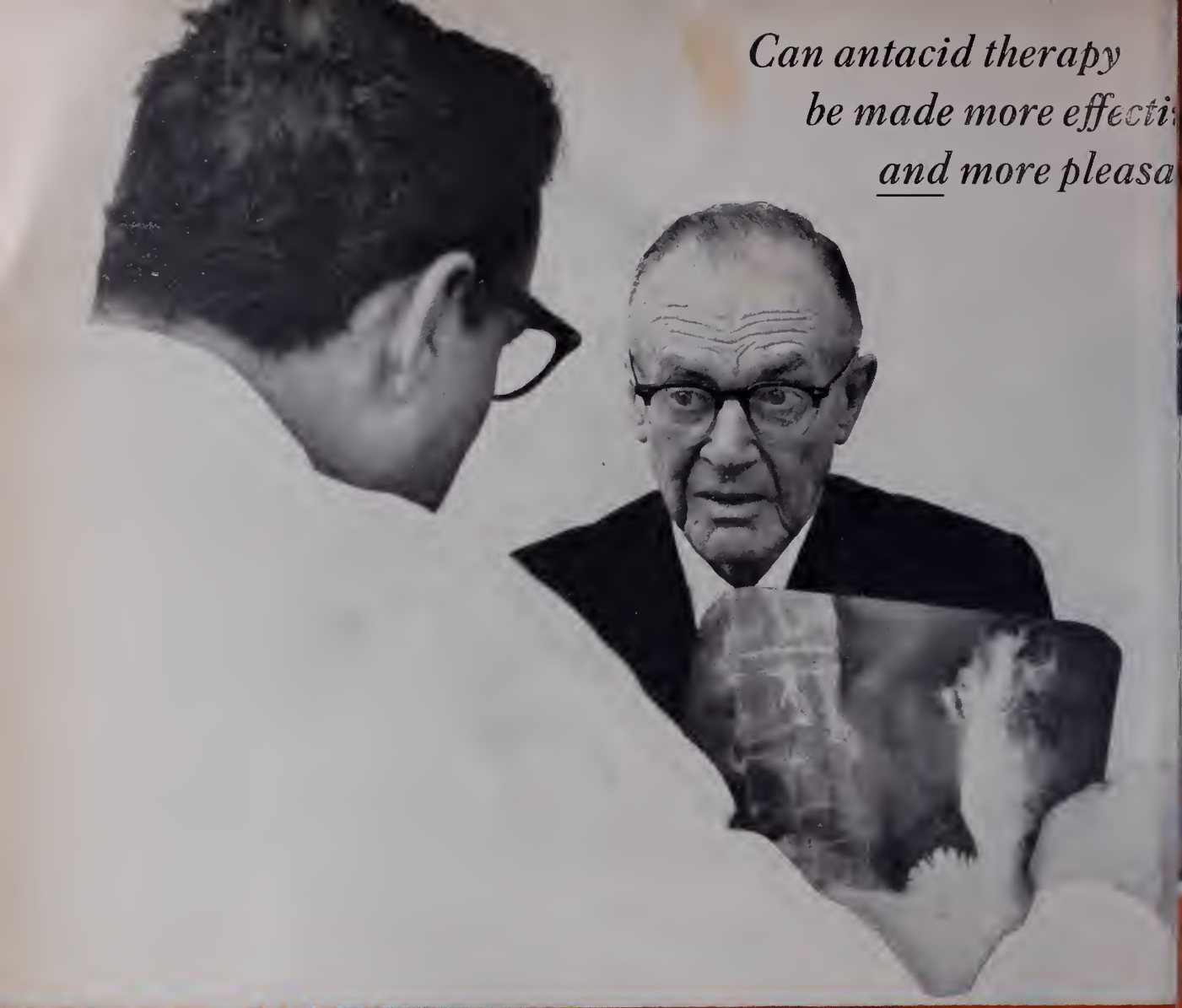
timed-release tablet

timed-release action for a full night's sleep

NEBRALIN is designed to duplicate the normal sleep pattern. It encourages muscular relaxation and induces sustained, relaxed sleep by the release of Dorsital and mephenesin in a timed-release tablet. Rapid-acting mephenesin quickly relaxes skeletal muscles to overcome "fatigue-tension" and conditions the body for sleep. Dorsital provides CNS sedation to induce sound, relaxed sleep. The initial and sustaining dosages are designed to keep the amount of barbiturate to be inactivated at any one time at a low level tapering toward morning. Evidence indicates that mephenesin is capable of producing sleep,[1] and when combined with a barbiturate enhances barbiturate action.[2, 3] Moreover, the integrated action of the two components permits smaller dosages of each,[4] assuring your patients refreshed awakenings without "morning hangover."

1 Schlesinger, E. B.: Tr. New York Acad. Sc. 2:6, (Nov.) 1948.
2 Richards, R. K., and Taylor, J. D.: Anesthesiology 17:414, 1956.
3 Shideman, F. E.: Postgrad. Med. 24:207, 1958.
4 Berger, F.: Pharmacol. Rev. 1:243, 1949.

SMITH-DORSEY · a division of The Wander Company · Lincoln, Nebraska · Peterborough, Canada



Can antacid therapy
be made more effecti
and more pleasa

THE MOST SIGNIFICANT IMPROVEMENT IN ANTACID THERAPY SINCE THE INTRODUCTIO OF ALUMINUM HYDROXIDE IN 1929

NEW

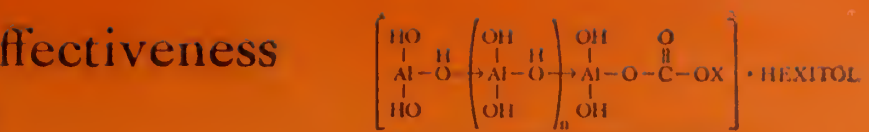
Creamalin®

ANTA TABL

Each Creamalin Antacid Tablet contains 320 mg. specially processed, highly reactive, short mer dried aluminum hydroxide gel, (stabilized with hexitol), with 75 mg. magnesium hydr

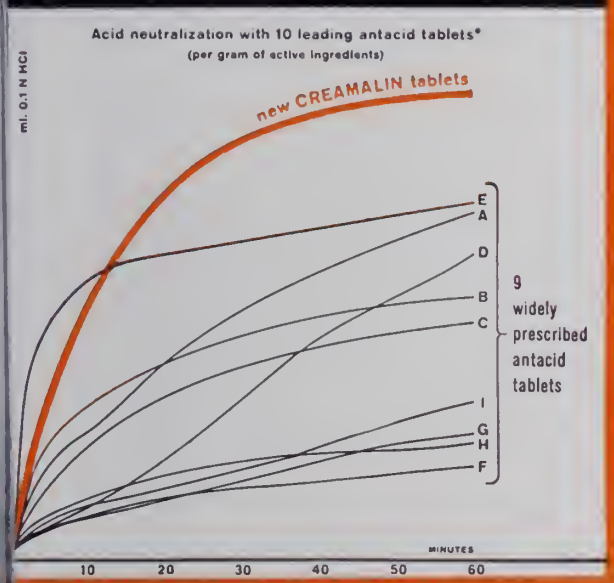
1. *Neutralizes acid faster (quicker relief)*
2. *Neutralizes more acid (greater relief)*
3. *Neutralizes acid longer (more lasting relief)*
4. *No constipation · No acid rebound*
5. *More pleasant to take*

new high in effectiveness
nd palatability

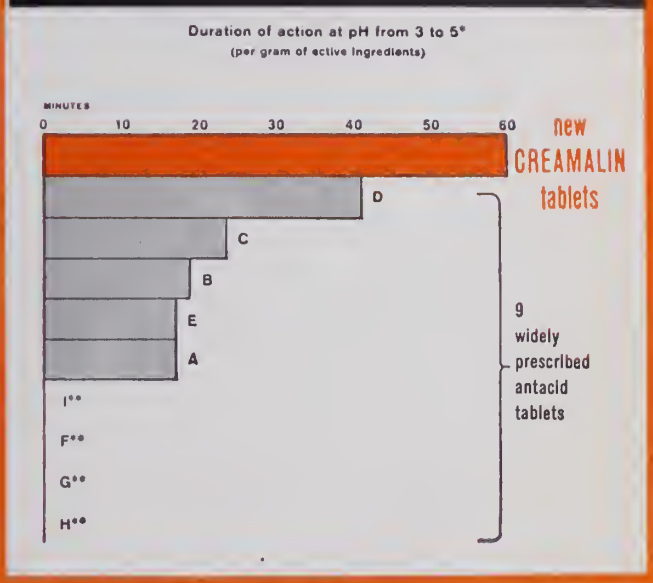


n is at least 1 and averages less than 6. X is a cation.

REAMALIN NEUTRALIZES *MORE* ACID *FASTER*
Quicker Relief • Greater Relief



CREAMALIN NEUTRALIZES *MORE* ACID *LONGER*
More Lasting Relief



*Hersel, E. T., Jr., Fowler, and Tainter, M. L. A new highly reactive aluminum hydroxide ... for gastric hyperacidity. To be published.
**pH stayed below 3





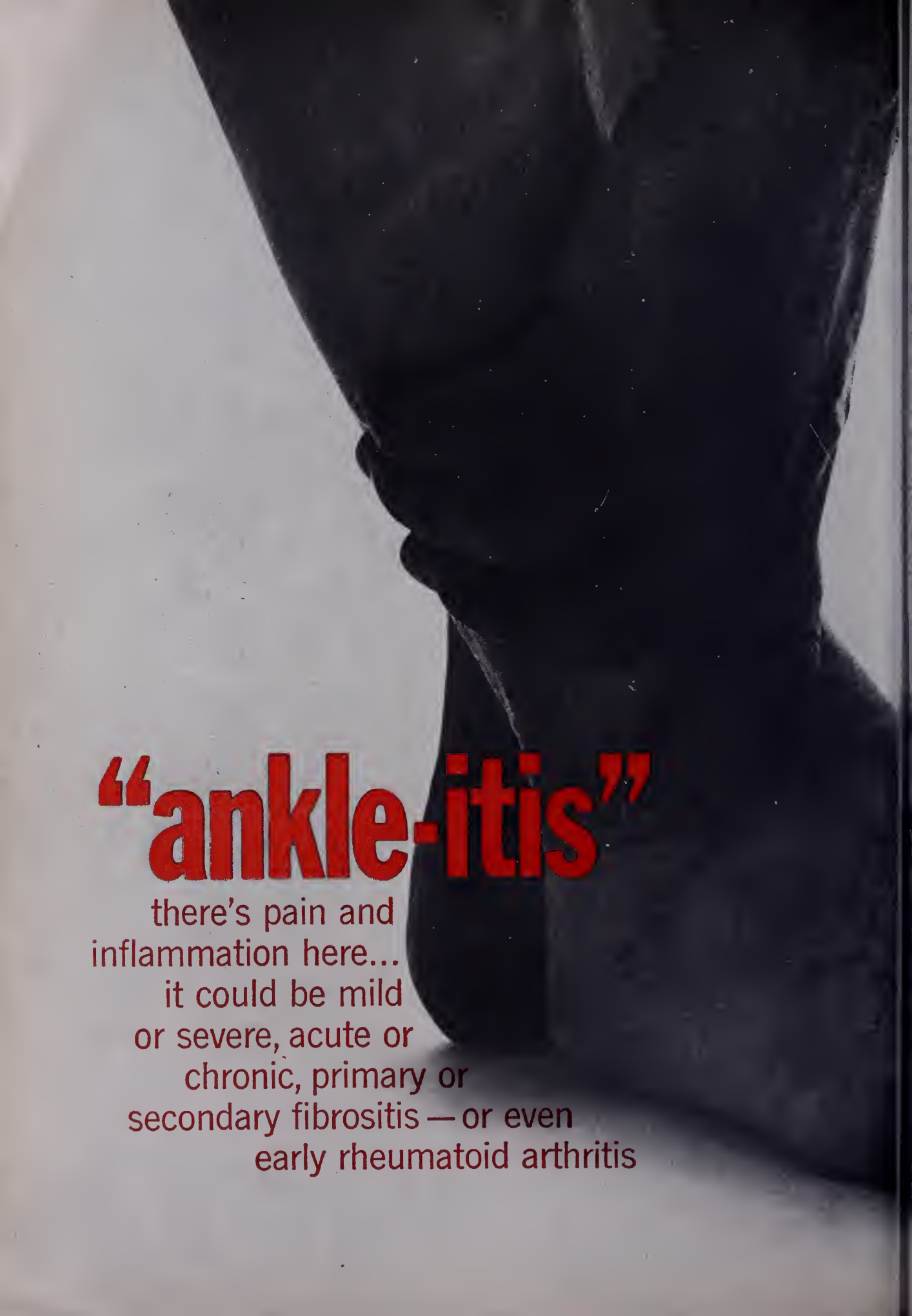
No chalky taste. New CREAMALIN tablets are not chalky, gritty, rough or dry. They are highly palatable, soft, smooth, easy to chew, mint flavored.

• NO ACID REBOUND • NO CONSTIPATION
• NO SYSTEMIC EFFECT

Adult Dosage: Gastric hyperacidity: 2 to 4 tablets as necessary. Peptic ulcer or gastritis: 2 to 4 tablets every two to four hours. Tablets may be chewed, swallowed with water or milk, or allowed to dissolve in the mouth.

Supplied: Bottles of 50, 100, 200 and 1000.

Winthrop LABORATORIES • NEW YORK 18, NEW YORK


"ankle-itis"
there's pain and
inflammation here...
it could be mild
or severe, acute or
chronic, primary or
secondary fibrositis — or even
early rheumatoid arthritis

more potent and comprehensive treatment than salicylate alone

assured anti-inflammatory effect of low-dosage corticosteroid[1] . . . additive antirheumatic action of corticosteroid plus salicylate[2-5] brings rapid pain relief; aids restoration of function . . . wide range of application including the entire fibrositis syndrome as well as early or mild rheumatoid arthritis

more conservative and manageable than full-dosage corticosteroid therapy—

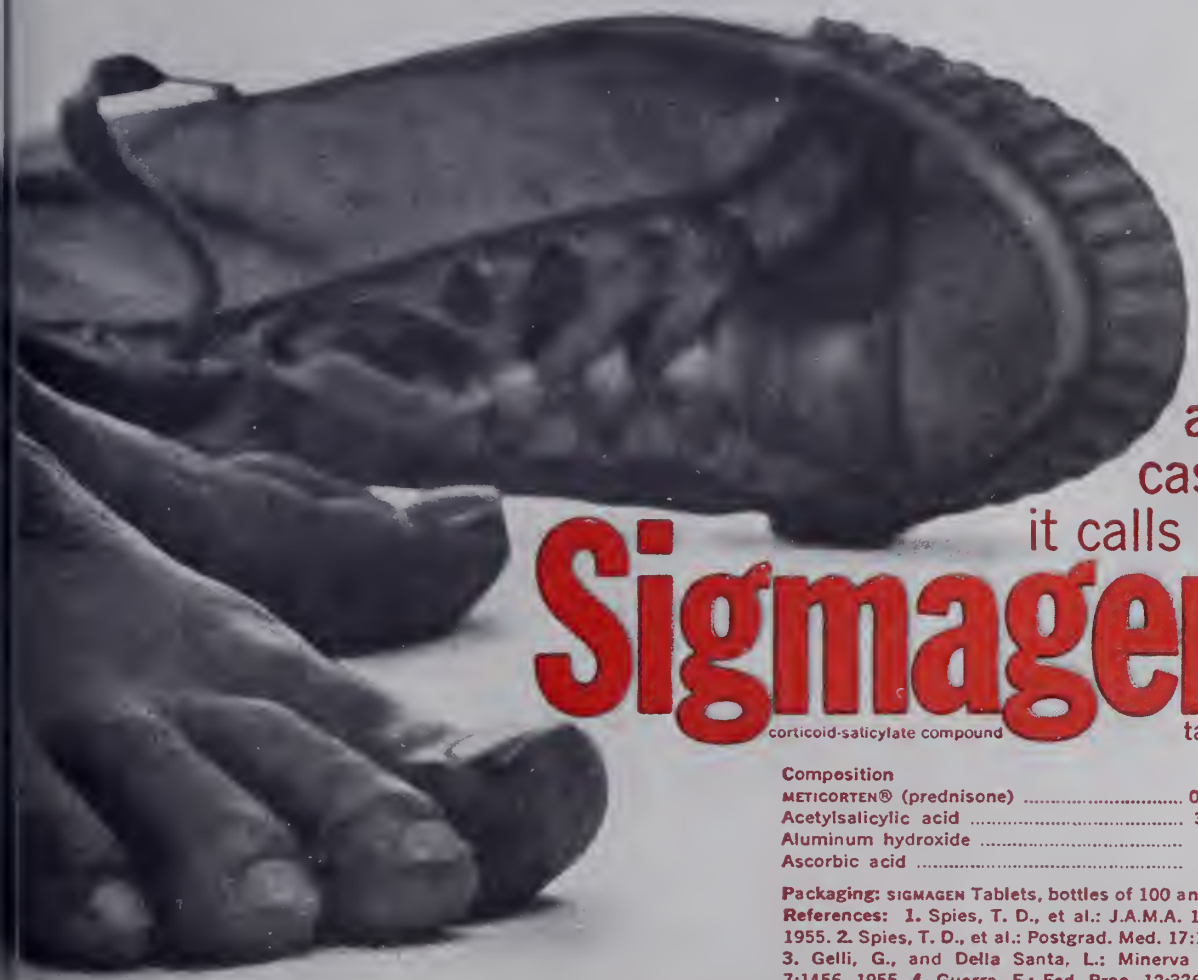
much less likelihood of treatment-interrupting side effects[1-6] . . . reduces possibility of residual injury . . . simple, flexible dosage schedule

THERAPY SHOULD BE INDIVIDUALIZED

Acute conditions: Two or three tablets four times daily. After desired response is obtained, gradually reduce daily dosage and then discontinue.

Subacute or chronic conditions: Initially as above. When satisfactory control is obtained, gradually reduce the daily dosage to minimum effective maintenance level. For best results administer after meals and at bedtime.

Precautions: Because SIGMAGEN contains prednisone, the same precautions and contraindications observed with this steroid apply also to the use of SIGMAGEN.



in any case it calls for

Sigmagen®

corticoid-salicylate compound tablets

Composition

METICORTEN® (prednisone)	0.75 mg.
Acetylsalicylic acid	325 mg.
Aluminum hydroxide	75 mg.
Ascorbic acid	20 mg.

Packaging: SIGMAGEN Tablets, bottles of 100 and 1000.

References: 1. Spies, T. D., et al.: J.A.M.A. 159:645, 1955. 2. Spies, T. D., et al.: Postgrad. Med. 17:1, 1955. 3. Gelli, G., and Della Santa, L.: Minerva Pediat. 7:1456, 1955. 4. Guerra, F.: Fed. Proc. 12:326, 1953. 5. Busse, E. A.: Clin. Med. 2:1105, 1955. 6. Sticker, R. B.: Panel Discussion, Ohio State M. J. 52:1037, 1956.

SG-J-618

Schering

in hypertension . . .

your patients feel better



and
blood pressure
is controlled
safely and
effectively

The hypertensive under treatment is frequently burdened with side effects of therapy including states of depression, fatigue, and lethargy. He finds little joy left in his life and laughter is almost a forgotten experience.

With RAUTENSIN and RAUVERA, two unique and dependable antihypertensive agents, patients feel better, have a brighter outlook and blood pressure is safely reduced.

in mild hypertension

RAUTENSIN provides smoother antihypertensive action with no sudden rebounds or abrupt declines, and can be given over long periods of time without impairing mental alertness, producing excessive lethargy or drowsiness. When tachycardia is present, RAUTENSIN slows heart rate 10 to 15 per cent. RAUTENSIN is less likely to cause mental depression.[1] The apprehensive hypertensive is calmed, yet side actions are " . . . either completely absent or so mild as to be inconsequential."[2]

RAUTENSIN®

each tablet contains 2 mg. of the purified alseroxylon complex of Rauwolfia serpentina

Dosage: For the first 20 to 30 days, 2 tablets (4 mg.) once daily, at bedtime. Thereafter, a maintenance dose of 1 tablet (2 mg.) daily will suffice for most patients.

in moderate to severe hypertension

RAUVERA produces smooth and steady antihypertensive action which persists over the entire twenty-four hours without peaks and valleys . . . no "saw tooth" effect. Patients show a marked subjective as well as objective improvement with a significant drop in blood pressure, yet with a very low incidence of side effects.[3] Abrupt rise in blood pressure does not occur even when therapy is interrupted.[4] Tolerance does not develop on prolonged administration. Sensitization reactions or postural hypotension do not occur. Headaches, fatigue, insomnia and "heart consciousness" rapidly disappear, leaving the patient feeling well and asymptomatic.

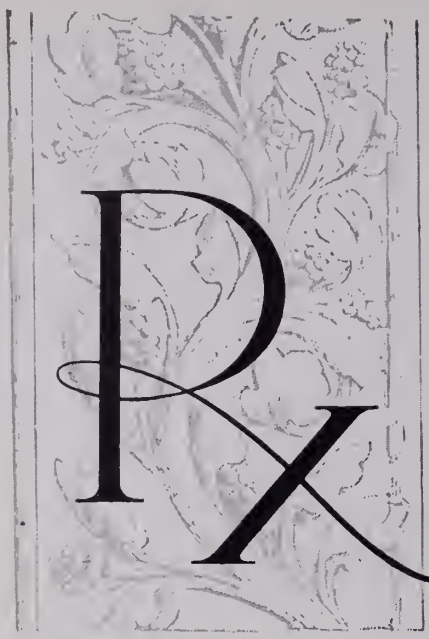
RAUVERA®

each tablet contains 1 mg. of purified alseroxylon complex of Rauwolfia serpentina and 3 mg. alkavervir (Veratrum viride fraction)

Dosage: One tablet 3 or 4 times daily, ideally after meals, at intervals of not less than 4 hours.

1. Moyer, J. H.; Dennis, E., and Ford, R.: Arch. Int. Med. *96*:530, 1955.
2. Terman, L. A.: Illinois M. J. *3*:67, 1957.
3. La Barbera, J. F.: M. Rec. & Ann. *50*:242, 1956.
4. Bendig, A.: New York J. Med. *66*:2523, 1956.

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska • Peterborough, Canada



WINE in Geriatrics and the treatment of the Anorexic, Debilitated Patient....

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1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933

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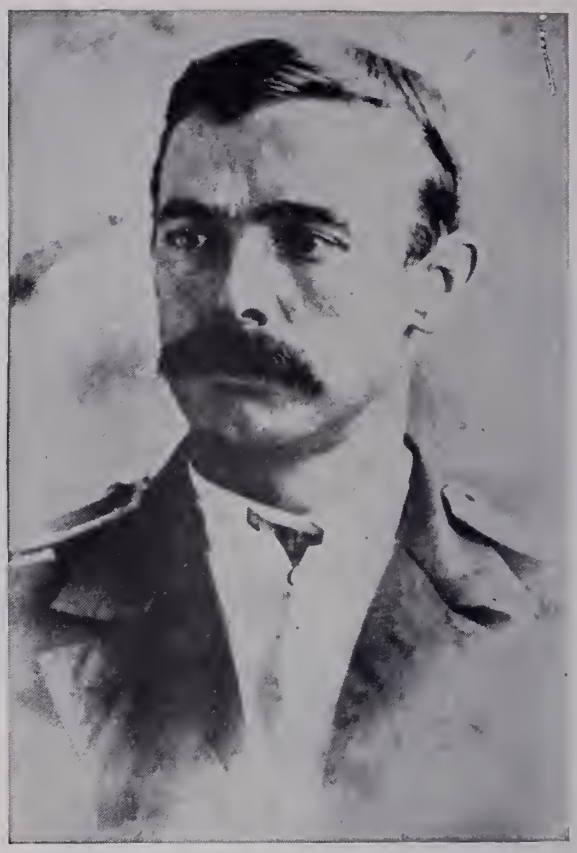
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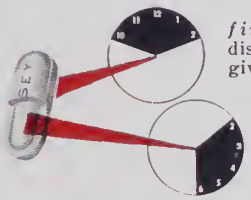
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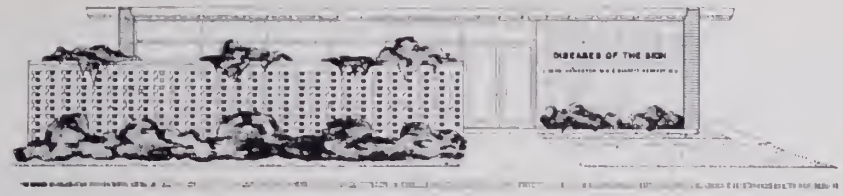
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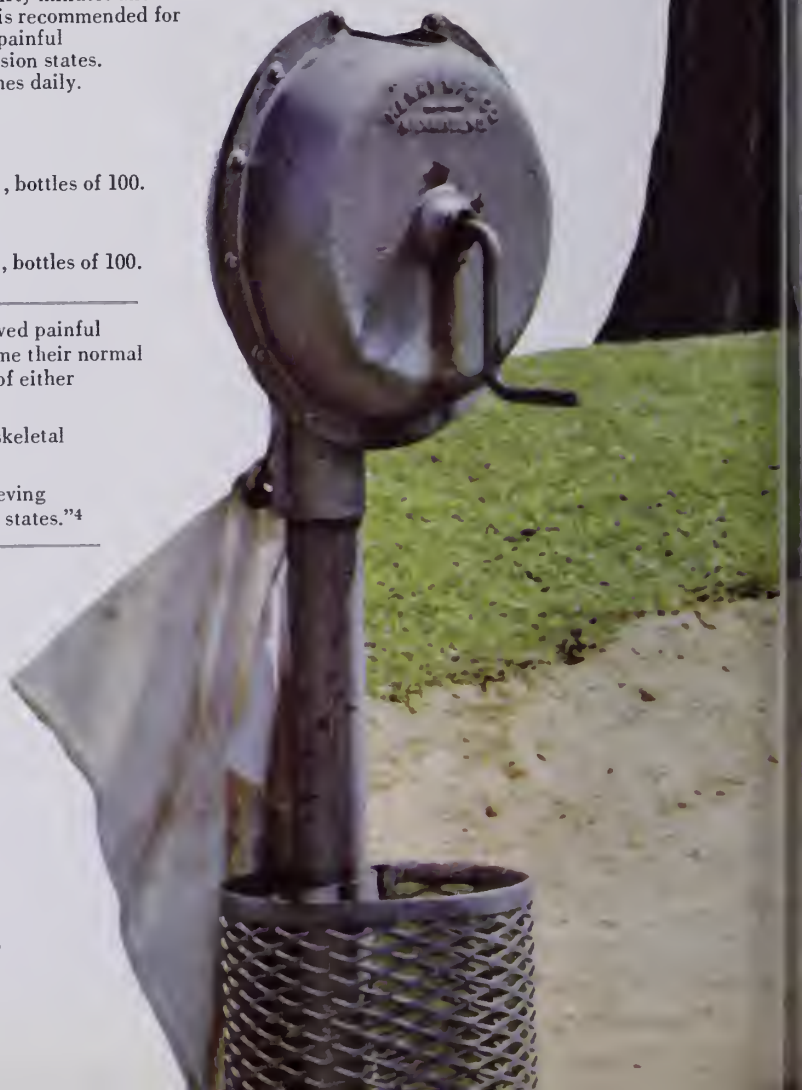
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1. Collective Study, Department of Medical Research, Winthrop Laboratories.
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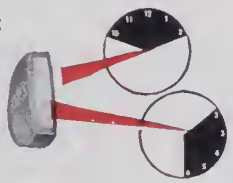
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One-half of this formula is in the outer layer, the other half is in the core.

Dosage: One tablet in the morning, mid-afternoon and at bedtime.

References: 1. Lhotka, F. M.: Illinois M. J. 112: 259 (Dec.) 1957. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

TRIAMINIC JUVELETS: Each timed-release Juvelet is equivalent in formula and dosage to one-half of a TRIAMINIC tablet, for the adult or child who requires only half strength dosage.

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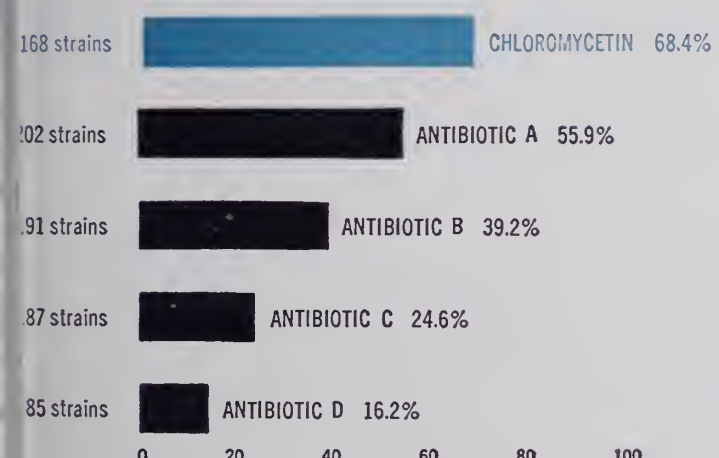
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REFERENCES: (1) Holloway, W. J., & Scott, E. G.: *Delaware M. J.* 29:159, 1957. (2) Suter, L. S., & Ulrich, E. W.: *Antibiotics & Chemother.* 9:38, 1959. (3) Murphy, J. J., & Rattner, W. H.: *J.A.M.A.* 166:616, 1958. (4) Rhoads, P. S.: *Postgrad. Med.* 21:563, 1957. (5) Horton, B. E., & Knight, V.: *J. Tennessee M. A.* 48:367, 1955. (6) Seneca, H.: *Am. Pract. & Digest Treat.* 10:622, 1959. (7) Hall, W. H.: *M. Clin. North America* 43:191, 1959. (8) Seneca, H., *et al.*: *J. Urol.* 81:324, 1959. (9) Wolfsohn, A. W.: *Connecticut Med.* 22:769, 1958.



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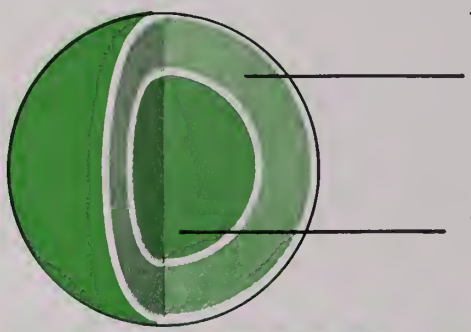
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Chief among the drawbacks to aspirin usage is gastric intolerance. This ranges from mild upset and "heartburn" to severe hemorrhagic gastritis.[1-10] Studies performed in conjunction with gastrectomy[4, 5] and gastroscopy[2] have shown insoluble aspirin particles firmly adherent to the gastric mucosa and imbedded between rugae. Reactions varying from mild hyperemia to erosive gastritis have been reported to occur in the areas immediately surrounding these adherent particles.[2, 4, 5] This is reported to be particularly true in patients with peptic ulcer.[4]

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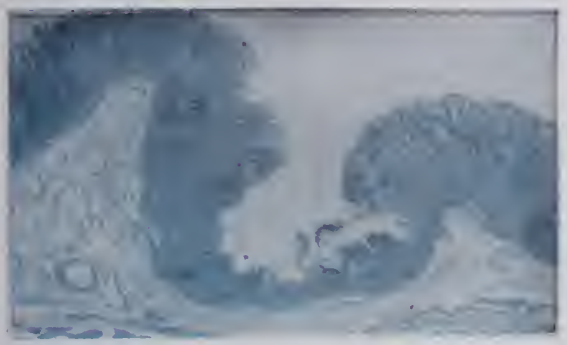
Regular aspirin crystals 24 hours after being mixed into water.



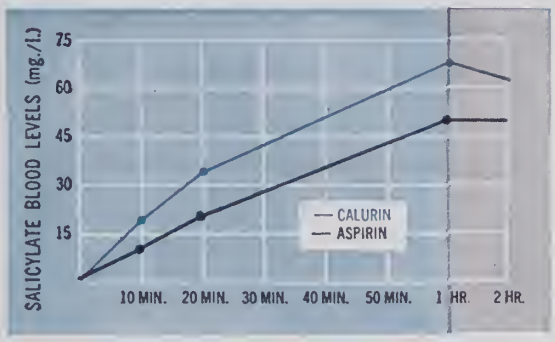
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CALURIN is the aspirin of choice, especially when high-dosage, long-term therapy is indicated:

1. High solubility forestalls gastric irritation or damage. This advantage is of special importance in arthritis and other conditions requiring high-dosage, long-term therapy.
2. Produces high salicylate blood levels rapidly for prompt analgesic, anti-pyretic, anti-arthritic effect.
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4. Flavored: can be chewed or dissolved in the mouth without water if desired — an advantage for patients requiring aspirin administration during the night and for pediatric patients.

Dosage: Each tablet of Calurin is equivalent to 300 mg. (5 gr.) of acetylsalicylic acid. For relief of pain and fever in adult patients, the usual dose of Calurin is 1 to 3 tablets every 4 hours, as needed; in arthritic states, 2 or 3 tablets 3 or 4 times daily; in rheumatic fever, 3 to 5 tablets 4 or 5 times daily. For children over 6 years, the usual dose is 1 tablet every 4 hours; for children 3 to 6 years, ½ tablet every 4 hours, as required. Not recommended for children under 3.

REFERENCES: 1. Waterson, A. P.: Aspirin and gastric haemorrhage, Brit. M. J. 2:1531, 1955. 2. Douthwaite, A. H., and Lintott, G. A. M.: Gastroscopic observation of the effect of aspirin and certain other substances on the stomach, Lancet 2:1222, 1938. 3. Editorial Comments: The effect of acetylsalicylic acid (aspirin) on the gastric mucosa, Canad. M. A. J. 80:47, 1959. 4. Muir, A., and Cossar, I. A.: Aspirin and ulcer, Brit. M. J. 2:7, 1955. 5. Muir, A., and Cossar, I. A.: Aspirin and gastric haemorrhage, Lancet 1:539, 1959. 6. Schneider, E. M.: Aspirin as a gastric irritant, Gastroenterology 33:616, 1957. 7. Bayles, T. B., and Tenckhoff, H.: Salicylate therapy in rheumatic diseases, Scientific Exhibit, Ann. Mtg. A. M. A., San Francisco, Calif., June, 1958. 8. Batterman, R. C.: Comparison of buffered and unbuffered acetylsalicylic acid, New Eng. J. M. 258:213, 1958. 9. Cronk, G. A.: Laboratory and clinical studies with buffered and nonbuffered acetylsalicylic acid, New Eng. J. M. 258:219, 1958. 10. Editorial: Aspirin plain and buffered, Brit. M. J. 1:349, 1959. 11. Smith, P. K.: Plasma concentration of salicylate after the administration of acetylsalicylic acid or calcium acetylsalicylate to human subjects, Report submitted to Smith-Dorsey from Dept. of Pharmacology, Geo. Washington Univ. School of Medicine, Washington, D. C., Sept. 5, 1958.

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NOVEMBER, 1959

Published Monthly
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Pyrazinamide-Isoniazid Treated Tuberculous Patients; A Five Year Follow-Up

• The authors review results in a group of twenty-one patients with far advanced pulmonary tuberculosis, treated for one year only, beginning in 1952, who have been kept under observation since that time.

MAURICE CAMPAGNA, M. D.
SYDNEY JACOBS, M. D.
New Orleans

IN 1954, Campagna, Calix and Hauser [1] reported that a group of 21 patients with sputum positive, far advanced pulmonary tuberculosis, most of them exhibiting microbacterial resistance to streptomycin and para-amino salicylic acid, improved markedly when treated with pyrazinamide and isoniazid for variable periods of time during a period between June, 1952, and June, 1953. The series was maintained intact until the recent death of 1 member-and the loss of 2 additional members to the study; this report details the observations on the remaining eighteen. Since the conclusion of the term of chemotherapy June, 1953, no patient has had any form of medication or therapy, such as bed rest periods, surgical collapse, specific antimicrobials, vitamins or other procedures, directed against tuberculosis.

From the Division of Tuberculosis Control, New Orleans Health Department, and the Department of Medicine, the Tulane University of Louisiana, New Orleans.

All were followed in a clinic of the Department of Health of the City of New Orleans. Eleven are gainfully employed; 2 are engaged in full time housework; 1 is temporarily disabled; 1 has a persistent positive sputum though her pulmonary pathology has not progressed and she is clinically much improved; 1 is mentally retarded; while three have nontuberculous disabilities (cerebral hemorrhage, confined to mental hospital, and advanced emphysema). Although this series is small, the ability to hold under observation such a high proportion of a group of ambulant patients from the onset of therapy, in 1952, warrants this sequential report and justifies the raising of certain questions.

Many years ago, J. Arthur Myers [2] postulated that there are three objectives in the treatment of pulmonary tuberculosis: (1) To arrest the progress of the disease; (2) to prevent spread of the disease to others; and (3) to restore or main-

TABLE 1

Case	Age	Race Sex	Activity Classification	Sputum Cultures	Work Capacity	Pul. Function M.B.C. % Est.	Pul. Function V.C. 3 Normal	Remarks
					CYSTS			
M.M.	47	WF	Active	Neg.	Temp. disabled	24	75	Febrile episodes
S.G.D.	33	CF	Uncertain	Neg.	Part time	64	90	
					CAVITIES — DEMONSTRABLE			
K.F.	38	WF	Active	Pos.	Unemployable	24	100	
M.B.	36	WF	Active?	Neg.	Housework	18	96	
F.V.	48	WM	Active?	Neg.	Self-employed	26	90	
A.S.	50	CF	Active?	Neg.	Unemployable	39	100	Hemiplegia
R.Mc.	48	CF	Active?	Neg.	Housewife	23	93	
L.R.	63	WM	Active?	Neg.	Chauffeur	84	100	
E.M.	65	CM	Active?	Neg.	Car parker	45	85	
G.C.	38	CM	Active?	Neg.	Manual laborer	25	79	
M.H.	51	WF						Cardiac death 1957
R.B.	68	WM	Active?	—	Self-employed	—	—	Lost to study 1955
					CAVITY CLOSED			
P.Y.	55	WM	Inactive	Neg.	Unemployable	44	98	Respiratory cripple
J.V.	50	WM	Inactive	Neg.	Self-employed	47	87	
R.J.	54	CF	Inactive	Neg.	Unemployable	—	—	Psychotic (non-tub.)
B.D.	48	CF	Inactive	Neg.	Machine operator	70	92	
R.W.	57	CF	Inactive	Neg.	Domestic	99	98	
H.W.	32	CM	Inactive	Neg.	Laborer	—	—	Lost to study 1956
J.W.	54	CM	Inactive	Neg.	Gardener	—	—	
M.K.	45	CM	Inactive	Neg.	Barber	36	100	
M.J.	52	CF	Inactive	Neg.	Domestic	70	100	

tain social and economic usefulness. Combining these three objectives into a yardstick, the results in these patients are measured.

Do These Patients Have Inactive Tuberculosis?

Let us consider 12 of this group, (representing 63 per cent of the total) who are working full time and who present no symptoms. They have no x-ray evidence of worsening of the demonstrable pulmonary pathology. The sputum is persistently negative on culture and they have maintained their weight throughout this period of observation.

For the purpose of classification we gave the following interpretations to the x-ray findings: When only a thin walled rarefied area presented at the site of the original unequivocal cavity, it was termed a "cyst"; when thick walls persisted, the structure was designated a "cavity"; and when no radiolucent area could be detected on any of the films (conventional or body-section) cavity closure was deduced.

A number of them demonstrated "open healing" of cavities. (Figures 1 and 2) The radiological appearance of unequivocal cavitation in two patients has been replaced by "cyst-like" structures, indicating either actual healing or thinning walls. Possibly, even histological examination would not absolutely distinguish the "active" from the "healed" cavities. Precise differentiation is academic for these patients; they are not surgical candidates and they seem not to have been thus far adversely influenced by continuing in the "open-negative" state. They provoke the need for further studies on just such patients to determine whether the "open-healed" state is really justification for surgical excision. By the criteria of Tchertkoff and Neenasheff [3] these are truly open healed cavities and, therefore, may represent inactive tuberculosis, the desideratum of all forms of therapy in tuberculosis.



Figure A

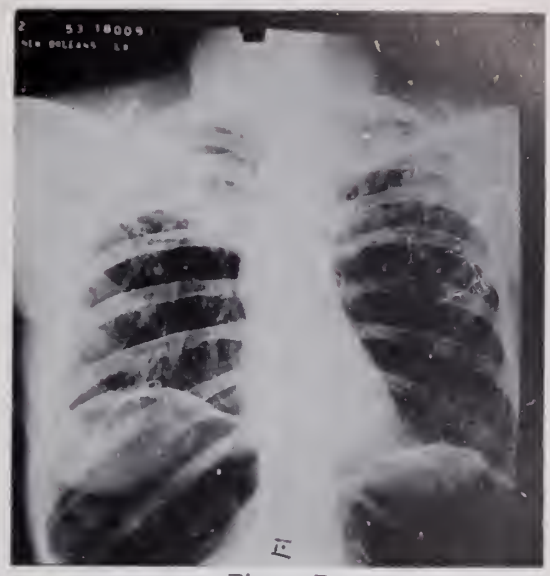


Figure B



Figure C



Figure D

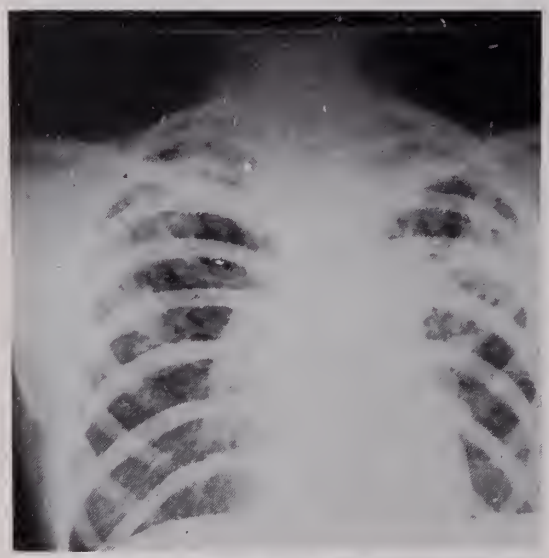
Figure 1. M.M., 47 year old white female, (A) at start of PZA-INH therapy, July 21, 1952. (B) At completion of prescribed course of therapy, July 2, 1953. (C) January 21, 1957, asymptomatic, at full work and little inconvenienced by "cysts" three and a half years later. (D) Early in 1958, she was obliged to discontinue her work as a cashier because of repeated bouts of fever, cough, and expectoration, each bout subsiding after administration of "broad spectrum" antibiotics. At no time were tubercle recovered from the sputum by culture.

One of our cases (Fig. 1) illustrates well the vulnerability of these structures to infection and the threat of reactivation of tuberculosis. Entirely asymptomatic until about six months ago, she has had several episodes of cough, expectoration and fever. Although no acid-fast bacilli have been recovered from the sputum during or since the febrile episode, the threat exists.

Those patients who presented x-ray evidence of persistence of cavities almost unchanged from the institution of therapy had no accompanying manifestations of active tuberculosis. Possibly these patients may have been only partially benefited by chemotherapy and may be in the "smoldering" stage of tuberculosis, but there is nothing to substantiate this impression. They must be classified as

"active" in accordance with diagnostic standards although they do not appear to be sick; they work as well as those in other groups, but their pulmonary function studies reflect more extensive restriction of breathing capacity than those whose cavities are apparently closed.

Those who recall the direful prognostication of Barnes and Barnes [4] anent persistent cavitation (85 per cent would be dead at the end of five years) or of Braeuning and Niesen [5] that 73 per cent are dead at the end of four years, may well wonder whether the herein reported patients more nearly correspond to Lawrason Brown's and Homer Sampson's "good chronics"—52 per cent of whom lived





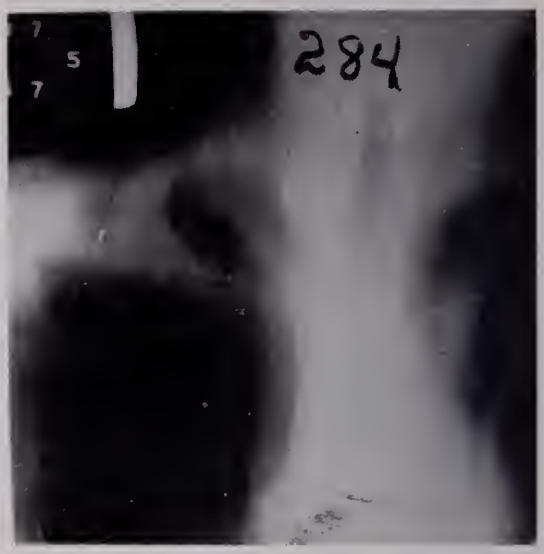


Figure 2. S.G.D., 33 year old colored female, (A, At start of therapy with PZA-INH, May 8, 1952. (B, Almost five years after conclusion of therapy, a large "cyst" appears at the site of original cavity. She is capable of performing most of her household duties.

ten years with obvious evidence of pulmonary cavitation. Are we simply dealing here with sputum-negative good chronics?

In the remainder of the group in whom there is x-ray evidence of cavity closure the classification of inactive tuberculosis seems appropriate yet differences in working ability seem slight indeed. Certainly the degree of "cavity closure" seems not intimately related to the present working ability, sputum status or general sense of well being.

Have We Kept Them From Spreading Tuberculosis?

These patients were originally chosen for outpatient therapy because for the most part, for one reason or another, they rejected recommended hospital requirements. The notorious inability of some patients to adjust to hospital regimen has been studied repeatedly by students of the psychologic aspects of tuberculosis therapy. They could be broadly classified as "poor hospital material"—they lived mostly to themselves, involved in their intimate domestic problems which seemed to be the basis of their rejecting hospitalization. Several were alcoholics, 2 were suf-

ficiently mentally retarded as to not grasp the significance of their disease status—yet all were potential sources of infection to the community in their daily intercourse with society until they were brought into the plan of study resulting in the present observations. We could find only a relatively few children as known contacts of this group at the start of this project in 1952 who were tuberculin positive. Only 1 patient in this series has remained persistently sputum-positive since 1953. As far as we are able to determine this group has not contributed significantly to the establishment of new potential cases of tuberculosis.

Are These Patients Socially and Economically Restored?

Eleven of them are gainfully employed and 2 are engaged in their own full time domestic duties. (Table 2) This is a most gratifying record. There is a strong contrast between what one would expect from inspecting the x-ray film or studying the pulmonary function tests and what one learns from the patient's work record. Again this is illustrated, if it actually needs illustration, that self-preservation laughs at physical disability. None of these patients had been offered formal rehabilitation procedures; evidently economic necessity in a willing individual makes for self rehabilitation. It is doubtful that those currently unemployed could ever be adequately rehabilitated.

TABLE 2
REHABILITATION

Fully employed	11
Partially employed	2
Temporarily disabled	1
Permanently disabled	4
Lost to study	2
Dead	1
	21

Discussion

A few additional observations on the specific features of this group bear detailing. Cor pulmonale is known to develop [6] following pneumonectomy or extensive disease of the lungs especially when there is vascular damage; seldom does it occur as a consequence of tuberculosis. Admittedly minimal or even moderate right ventricular hypertrophy may not be easily detected especially when pulmonary fibrosis pleuritis, chest wall collapse, and diaphragmatic elevation combine to obscure the roentgen appearance and the electrocardiographic portrayal.

Harrison [7] et al observed that pulmonary hypertension develops years after pneumonectomy, presumably as a result of increased pulmonary capillary blood flow, and limited expansibility of the vascular bed. There was noted a relationship between increase in right ventricular pressures (measured by cardiac catheterization) and decrease in maximal breathing capacity. Each patient with maximum breathing capacity less than 40 per cent of the predicted normal value had clinical as well as instrumental evidence of right ventricular hypertrophy.

It is of interest that most of our patients with radiologic evidence of persistent cavitation had no physical or electrocardiographic signs of cor pulmonale with considerably less than 40 per cent normal computed breathing ability. Possibly the slower pace of chronic pulmonary tuberculosis permits development of an adoptive mechanism protecting against cardiac strain. In these patients, nothing was found by extensive examinations to suggest the presence of cor pulmonale although one patient did have an abnormal electrocardiogram. They seemed to inactivate their lesions at the cost of drastically reducing pulmonary efficiency but without developing cardiac disease as a result of it.

Deficiencies in our present system of classifying patients is indicated by the difficulty in determining whether patients at full work, apparently not disseminating tuberculosis and with no evidence of progressive disease should be termed "active" because of x-ray evidence of persistent cavities.

Despite marked restriction of ventilatory capacity, few of these patients showed evidence of obstructive "emphy-

sema". Where cavities are readily demonstrable, the work status is less favorable than where cavities had closed. Four were at full time work, two were partially employed and two were completely disabled. The average maximum breathing capacity was 34 per cent predicted normal. Of those whose cavities had apparently closed, seven are at full time work while two are completely disabled; the maximum breathing capacity averages 61 per cent predicted normal. That these figures are gross approximations may be indicated by one patient whose x-ray portrays complete cavity closure and whose maximum breathing capacity averages 44 per cent predicted normal but who is completely incapacitated as a pulmonary cripple. On the other hand, another with persistent cavitation has a maximum breathing capacity of only 25 per cent and yet works full time as a manual laborer.

Summary

Twenty-one ambulatory patients have been followed five years. No therapy was given after conclusion of one year of treatment with pyrazinamide and isoniazid for bilateral far advanced sputum positive pulmonary tuberculosis, presumably caused by organisms resistant to streptomycin and para - amino - salicylic acid.

Eighteen are known to be alive. One has died of heart disease and two have been lost to study. Eleven of them are at full time work; two were disabled by nonpulmonary disease and one by respiratory insufficiency. One has a persistently positive sputum despite multiple forms of therapy. Three are mentally incapable of working.

The salvaging of eleven of these patients for complete social and economic usefulness in the face of severe restrictions of pulmonary function, and the apparent prevention of dessemination of tubercle bacilli by most of this group are important and encouraging aspects of this study.

There is no evidence that pyrazinamide when used with isoniazid causes permanent harm in those who escape the early ill effects or who recover from early toxic effects on withdrawal of the drug.

There has been adduced, five years after cessation of therapy, no evidence of relapse, contagiousness, or progressive pulmonary insufficiency, all of which are frequently given as indications for extirpative surgery.

Note: We are grateful to Dr. Irving L. Rosen who supervised the performance of cardiorespiratory examinations in the Cardiac Research Laboratory of the Touro Infirmary, and to Dr. George Hauser, Director of Central Laboratories, New Orleans City Health Department and Louisiana State Health Department, who supervised laboratory procedures, and to Mrs. Marguerite Bourgeois, R.N., Clinic Supervisor, Bureau of Tuberculosis Control, who collected and arranged the records of the patients in the Tuberculosis Control Division of the City of New Orleans Health Department.

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A New Explanation of the Cause of Some Uremias and Probably the Best Way of Treatment

• The author discusses his experiments with an "artificial nephron," and researches into the "Anuria syndrome" with his conclusions as to etiology and treatment.

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Sodus, New York

THE darkness in which we grope about for the real cause of some uremias or severe oligurias has as a result that the majority of these patients die.

This investigation was stimulated by a discussion of the renal lesions in a case of poisoning by mercuric chloride. It seemed to the pathologist, and also, to the author, that no satisfactory explanation had been published about the development of anuria in such a condition as mercuric chloride poisoning, in which there is extensive destruction of tubular epithelium and almost undamaged glomeruli. The symptom of anuria is the reverse of what might be expected when the reabsorptive mechanism is destroyed.

The author came to the conclusion that perhaps insufficient attention had been paid to changes in the intrarenal pressure. The question arose, could an increase in the intrarenal pressure cause oliguria or anuria? It seemed practically impossible to devise a satisfactory experiment to test this point in a living mammal. Since urine-secretion is believed to be, in a considerable part, a mechanical filtration process, the author constructed a mechanical device ("artificial nephron"), by means of which conditions believed to be present in the human kidney could be imitated and controlled.

Dynamics

The artificial nephron is constructed of glass tubes and rubber tubes, connected with two mercury manometers and provided with several clamps to control pressure and rate of inflow. A tube, representing the afferent arteriole, is connected with a water tap to imitate inflowing blood. By adjustment of the water-inflow with a clamp, the pressure in the afferent arteriole, as measured in a manometer, can be adjusted to any desired level. The effective filtration pressure in Bowman's capsule is controlled by a clamp and measured by manometer (capsular pressure). The proximal convoluted tubule, Henle's loop, the distal convoluted tubule, and the collecting tuble are represented. The outflow of water represents urine, discharged into the ureter. By adjusting a clamp a trickle of water can be provided to imitate the reabsorption by the tubules. Imitation of the Malpighian body by a device, containing a separating membrane, which allowed the filtration of water freely, did not change the result. Such a membrane is therefore superfluous. It merely makes the construction somewhat more complicated. For this reason the same stream of water could represent blood as well as urine, which is the case in this artificial nephron.

Normal Pressures in the Tubuli of Man

The following figures are estimations for man and are deduced from measurements made on isolated blood-perfused kidneys of dogs.[1] With a normal blood-pressure in the brachial artery, the blood pressure in the afferent arteriole is about 75 mm. Hg. The osmotic pressure in this vessel is normally about 30 mm. Hg. The difference is therefore 75 less 30 or 45 mm. Hg. The "capsular" pressure in Bow-

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man's capsule is normally about 5 mm. Hg. The effective filtration pressure or actual driving force will therefore be 45 minus 5 or 40 mm. Hg. The resulting pressure within the external covering of the kidney is here called "intrarenal pressure". The external covering of the human kidney is called by anatomists "Tunica fibrosa", whose innermost part, "Tunica muscularis" contains muscle bundles. It is easily separable from the underlying tissue. This separation of both tunicae is known by the surgical name "decapsulation".

"Normal" Function of the Artificial Nephron

When the pressures in the artificial nephron were adjusted according to the normal pressures in the tubuli of man, it was very interesting to see that there was a slow drop-by-drop outflow of water, representing the urine from the collecting tubule, passing toward the bladder, and still another outflow of water from the part which represents the places of reabsorption.

"Abnormal" Function of the Artificial Nephron

As an example of abnormal function the diuretic action of mercurials can be taken, because reliable investigations are available in this field. Blumgart,[2] in 1934, and Walker,[3] in 1937, found that mercurials in smaller doses cause a diuresis in spite of an unchanging rate of glomerular filtration. Therefore, they must act by reducing the tubular reabsorption of water. By imitating this in the artificial nephron by tightening the clamp one is amazed by seeing an immediate polyuria, in spite of the fact, that the rate of supply of water from the tap has not changed. Large doses of mercurials which cause mercury poisoning, marked by oliguria and later anuria, can also be imitated by the artificial nephron. The explanation has been a matter of speculation and controversy for over a century. The old theory which attributed the symptoms to mechanical blockage of the tubules by detached necrotic cells is entirely inadequate.

Often within a week the tubules may be found clear of detritus, in autopsies, in cases in which death was caused by anuria and uremia. However, in these cases the tubules show a degree of dilatation, which is sufficient to raise the intrarenal pressure. Although this alone can produce the anuria, sometimes in fatal cases an additional hypotension and a hypoproteinemia are found. All three can work in the same direction. If two or three of these factors are present, then a smaller increase of the intrarenal pressure could be sufficient to produce the anuria. Assume that with a lowered blood pressure in the brachial artery, the pressure in the afferent arteriole may be 50 mm. Hg. (instead of about 75 mm. Hg.), and the osmotic pressure may be 20 (instead of about 30 mm. Hg.), as a consequence of hypoproteinemia. The difference, 50 less 20, or 30 mm. Hg. indicates the effective filtration pressure or actual driving force. The capsular pressure, which is normally about 5 mm. Hg. may be 25 mm. Hg. as a consequence of the increased intrarenal pressure. If the pressures in the artificial nephron are so adjusted that one manometer reads 30 and the other manometer reads 25, it is interesting to see, that the polyuria disappears and is replaced first by oliguria and later by anuria. If the pressures in the artificial nephron are so adjusted that the effective filtration pressure (actual driving force) is near the critical level, a rise or a fall of a few mm. of Hg. in the pressure will result in "anuria" on one hand, or a free flow of fluid on the other. Just as it is found in autopsies, as mentioned above, the anuria may appear without the introduction of any obstruction in the tubules.

Pathological Findings

For the sake of brevity and convenience, the symptom-complex, consisting of severe oliguria or anuria, followed by uremia, will be referred to as "the anuria-syndrome". The factor which makes a rise in the intrarenal pressure possible, is

the fact, that in adults and also in certain animals, such as the dog and the cat, the tunica fibrosa and tunica muscularis, together called "renal capsule" by clinicians, are relatively rigid and inelastic. A relatively slight increase in the bulk of the renal tissues, may therefore cause in adults a significant rise in the intrarenal pressure. In small children and in some animals, such as the guinea-pig, in which the renal capsule is more elastic, it is probable that the "anuria-syndrome" cannot develop.

Among the pathological disturbances which may cause an increase of the bulk of the renal tissue and so a rise in the intrarenal pressure are edema, exudate, or neoplastic infiltration of the interstitial tissue, swelling of the tubular epithelium, and dilatation of the tubules. The latter may be caused by obstruction of the tubules by solid casts (of necrotic tubular epithelium, hematin, myoglobin, Bence-Jones protein, sulfonamide crystals). These obstructions may be present in dilated tubules, but often they are present in parts of the tubules, distal to the areas of dilatation. It is not the mechanical obstruction to the outflow of urine, which causes anuria, so much as the resulting increase of intrarenal pressure. The "anuria syndrome" may develop in cases in which only part of the tubules is obstructed, or in which no obstruction can be demonstrated. Partly from clinical observations, partly from study of autopsy-material, partly from reliable descriptions in the literature, paying special attention to the so-called uremias of unknown origin, the author collected the following list of diseases, in which the cause of death *may be*, in some cases, the "anuria syndrome", following an increase of the intrarenal pressure: (1) mercury poisoning, (2) transfusion kidney, (3) crush injury, (4) sulfonamide poisoning, (5) phosphorus poisoning, (6) cresol poisoning, (7) Hepatorenal syndrome, (8) Chiari's disease, (9) Weil's disease, (10) pyocyaneous septicemia, (11) diphtheria, (12) cholera, (13) pyloric and duodenal obstruction; (the sometimes observed "mysterious" uremias after these obstructions are probably nothing else than the here described "anuria syndrome"); (14) interstitial nephritis as may occur in fulminant influenza (see case described in this article), (15) multiple myeloma, associated with Bence-Jones proteinemia, (16) administration of excessive amounts of fluid e.g. after severe hemorrhages etc. (17) paralytic equine myoglobinuria in man, (18) Favism, (19) Black Water fever, (20) Yellow Fever, (21) neoplasms, localized in the interstitial renal tissues e.g. Kundrat's lymphosarcoma etc., (21) Blum's *azotémie par manque de sel*, (23) dilatations of groups of renal tubules in some parts of the kidneys, caused by obstructions in other parts of the same tubules, (24) the bite of the spider *Latrodectus mactans* (Black Widow), (25) Haff disease.

Uremia, caused by glomerular injury is an entirely different process and must be sharply differentiated. Sometimes only the autopsy can determine if the glomeruli are intact. If the glomeruli are involved in one of the diseases mentioned above, it may not be the "anuria syndrome". Often one finds in those cases that only the tubules and not the glomeruli are involved.

In all cases of the syndrome a high tension of the renal capsule is present. This is often demonstrated at autopsy (as the author observed), if the autopsy is carried out very shortly after death, before rigor mortis has set in. After cutting the renal capsule one observes, that the renal tissue bulges out, Morrison [4] has reported three cases of crush injury which came to autopsy before rigor mortis, in all of which the cut edges of the kidney bulged out over the capsule. In the case of crush injury the swelling of the tubular epithelium, as shown in Figure 2, is probably caused by some toxic substance ("nephrotoxin") produced by the damaged tissues.

Case Reports

Brief reports of 5 patients, who died with the "anuria syndrome", follow, together with illustrations showing the

pathological lesions in the kidneys. Most of these illustrations show that the tubules are more or less displaced either by an interstitial edema, with or without signs of inflammation, or by neoplastic tissue. Some sections show only swelling of the tubular epithelium; other sections show interstitial edema. Occlusion of tubuli by blood clots or cell detritus *may* be completely absent, as already mentioned.

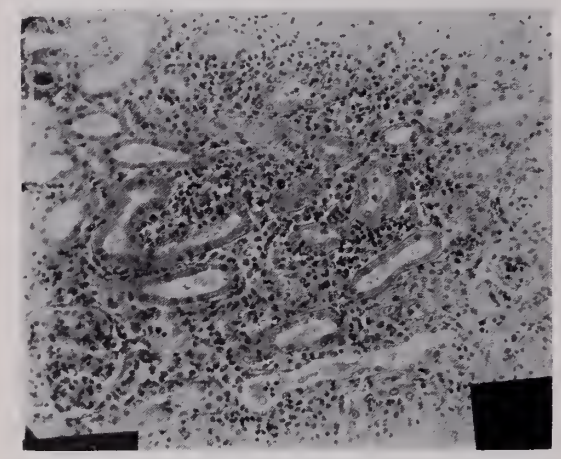


Figure 1. Kidney section of a case, having shown the syndrome in consequence of an interstitial nephritis, probably part of a fulminant form of influenza. Notice the inflammatory edema in the interstitial tissue. This edema is considered as the cause of an increased intrarenal pressure. Nowhere is there true obstruction of the tubules, which proves that obstructions may be absent completely in anuria. After cutting the renal capsules, the renal tissue bulged out.

Figure 1 is a kidney section of a young doctor, a resident in the hospital where the author worked. He became suddenly severely ill with influenza. He had high fever and died seven days later, with anuria and uremia. At autopsy the kidneys showed an abundance of *interstitial edema, causing an increase of the intrarenal pressure*, sufficient to produce the "anuria syndrome". After cutting the renal capsules the renal tissues bulged out.

Figure 2 represents the picture of a kidney-section of a patient who died from crush injury, victim of an airplane crash. His left leg was squeezed in the remnants of the airplane for five hours. The autopsy-report stated: "On section of the kidney the cut-edge everts and the cortex is raised above the surface of the renal capsule, as well as the medulla and the pyramids". Figure 2 shows the enormous swelling of the tubular epithelium, but there was also found edema of the interstitial tissue. This picture corresponds completely with the description by British pathologists of such cases of crush injury during the bombardment of London.

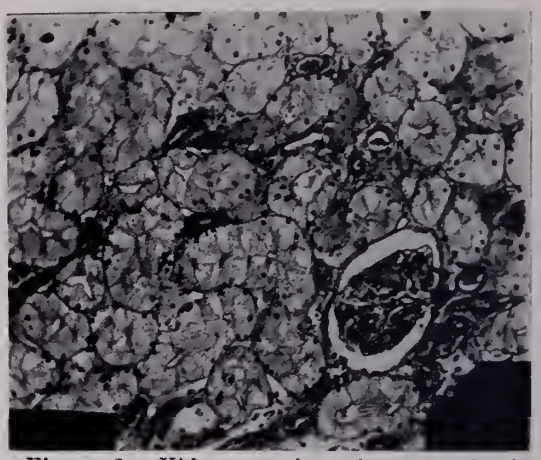


Figure 2. Kidney section of a case, having shown the syndrome, in consequence of a crush injury (airplane crash). Notice the intense swelling of the tubular epithelium cells. This swelling is considered as the cause of an increased intrarenal pressure. After cutting the renal capsule, the renal tissue bulged out.

Figure 3 represents a section of the kidney from a patient, who committed suicide with mercuric chloride. After cutting the renal capsule, the renal tissue bulged out.

Figure 4 represents a section of the kidney of a patient, who died, following a blood-transfusion of incompatible blood. The old explanation which attributed the anuria to blood casts, has been rejected by many pathologists because the number of blood casts is often negligible in fatal cases. Boyd [5] stated: "It seems probable that there must be some other explanation". After cutting the renal capsule the renal tissue bulged out.

In the next part of this article a few remarks may be added about transfusion kidney and about crush injury. The author is collecting more data about the other diseases mentioned above, in which

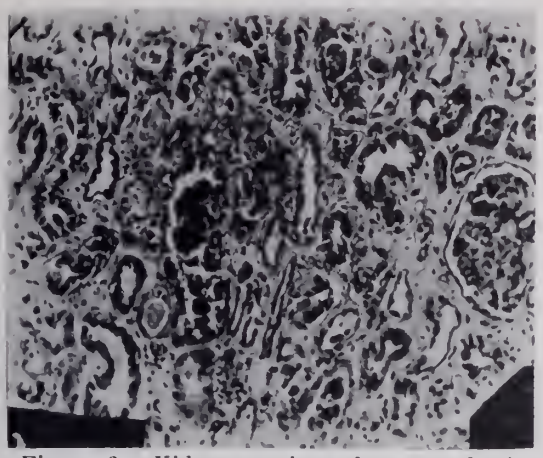


Figure 3. Kidney section of a case, having shown syndrome, in consequence of a mercury poisoning. Notice the dilatations of the tubules by detritus of blood, desquamated cells, and precipitates of calcium, or dilatations by obstructions in lower parts of the tubules. The dilatations of tubules are considered as the cause of an increased intrarenal pressure. Such obstructions are only present in a part of the kidney and therefore insufficient to explain the anuria. After cutting the renal capsules, the renal tissue bulged out.

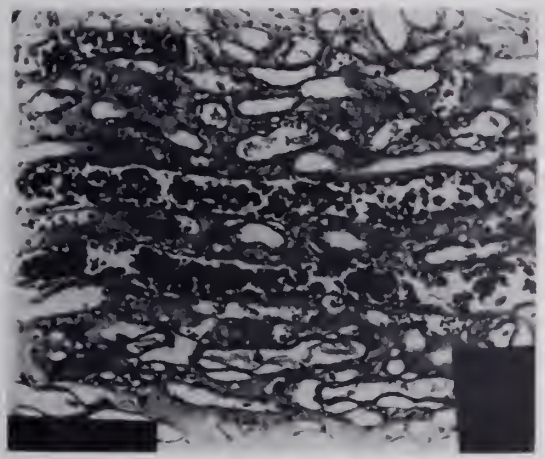


Figure 4. Kidney section of a case, having shown the syndrome, in consequence of a blood transfusion (incompatibility). Notice the dilatations of the tubules and desquamated cells. These dilatations are considered as the cause of the increased intrarenal pressure. The obstructions are only in a part of the kidney and therefore insufficient to explain the anuria. After cutting the renal capsules, the renal tissue bulged out.

sometimes the anuria-syndrome appeared and was followed by the fatal end.

Transfusion Kidney

The symptoms of transfusion kidney need no description here. They may or may not be followed by the "anuria syndrome". Bordley [7] described an interesting series of 17 cases of transfusion kidney, in all of which suppression of urine was the outstanding feature, always associated with hyperazotemia. Of these 17 patients, 11 died and 6 recovered. That is a mortality rate of 65 per cent. Navasquez [8] writes that he disagrees with all the explanations of the oliguria or anuria in transfusion kidney, which he found in the literature and he adds that further investigations are desirable.

Crush Injury

During the Messina earthquake of 1908, many of the 65,000 fatal cases died from crush injury, as may be concluded from an article written by Colmers,[9] head of the Relief Expedition. He described clearly the "anuria syndrome". In 1916, Frankenthal described the "anuria syndrome" from crush injury during the first World War, caused by a mine explosion. In March 1941, Bywater and Beal [10] published their paper about crush injury, observed during the terrible bombardments of London, about September 13, 1940. They called it erroneously "a hitherto unreported syndrome", apparently not knowing the literature just mentioned. About 5 per cent of all casualties during the World War II air-raids in urban areas were crush injuries. On admission to the hospital the crush injury patient, who had usually been buried under debris for several hours with heavy pressure on a limb appears to be in good condition, except for swelling of that limb. However examination of the blood discloses often (not always) a hemoconcentration which may reach 22 gm. per cent hemoglobin, corresponding to a plasma-volume of about one liter. This is the "pre-shock period" preceding the fall of blood pressure. The symptoms of shock may disappear with or without therapy and in spite of this disappearance, the "anuria syndrome" may be observed. The "anuria syndrome" is independent of a precedent shock, because cases of crush injury are described without shock. Morison [4] described 3

such cases without shock, all 3 with fatal result. Most of the victims were buried under debris between three and twelve hours. The existence of a nephrotoxin, formed in the crushed muscles, seems to be accepted by most of the investigators. In dogs whose limbs were crushed, mitochondrial changes were found in the tubular epithelial cells, suggesting the action of a nephrotoxin.[11, 17] Broster[15] wrote regarding the therapy of crush injury: "There is not much that can be done" and "Few survive when the syndrome is marked". Patey[16] wrote: "Most surgeons have had the distressing experience of seeing their patients (with crush injury) pass from a good general condition to death from anuria, despite heroic measures to reestablish the urine-flow.".

Treatment

In all diseases, associated with the "anuria syndrome", an attempt should be made to decrease the high intrarenal pressure, if there is suspicion that it is the cause of the oliguria or anuria. Of the older methods of treatment the following are contraindicated because they are potentially injurious.

1. Administration of large amounts of fluid.
2. Protein starvation.
3. Massive doses of protein.
4. Intermittent pressure of a crushed limb.
5. Injections of mercurials.
6. Injections of cortisone or ACTH.

The administration of large amounts of fluid has been often employed, without benefit or by making the condition worse, probably by still more increasing the intrarenal pressure.

The author observed a woman, 43 years of age, who developed the "anuria syndrome" and died in uremia in spite of the administration by her physician of not less than seven liters of fluid a day. The autopsy revealed an interstitial nephritis with marked edema of the renal tissue. After cutting the renal capsule the renal tissue bulged out. Younge[17] described a case of transfusion kidney in which the oliguria remained in spite of the daily injections of three liters of glucose-solution. She died in uremia. Dunn[18] described the case of a girl who developed the symptoms of crush injury after being pinned under debris for six hours, during an air raid. In spite of a fluid intake of 3600 cc. per day, she died with the "anuria syndrome". Wakeman[19] observed the "anuria syndrome" in several cases of blackwater fever in West Africa. Styron and Leadbetter[20] stated: "A frequent mistake in the therapy (of anuria) is the administration of fluid.". The administration of alkali in cases of transfusion kidney was recommended by Baker and Dodds,[21] with the object of preventing the deposition of acid hematin in the renal tubules. It appeared later that fatal cases of transfusion kidney were reported without hemoglobinuria.[22]

Considering the result of this investigation, I came to the conclusion that probably the best therapy of what was called here (by way of abreviation) "the uremia syndrome", is as follows:

1. Bilateral decapsulation of the kidneys, as soon as possible after the diagnosis is made. Incision of the kidney is not necessary. Using the decapsulation as a last resort is a great mistake, too often made in the past.
2. Restriction of fluid intake.

All other treatments are probably of little value in comparison with the two just mentioned. They are all used in numerous cases and the result was death in a very high percentage. They do not remove the cause of the dangerous situation. Diuretics are better avoided, because in several cases they have made the condition worse. In animal- experiments, it has repeatedly been shown that bilateral decapsulation reduced the intrarenal pressure by about 50 per cent. There is no reason to suppose, that this would be much less in the human being. Decapsulation, which was performed, in 1896, by Harrison, is a simple procedure, which may save many lives in the future, if not done as a last resort, but in the very beginning of the "anuria syndrome". Edebohl re-

ports the successful use of the decapsulation in 18 cases, without a single death according to Da Costa.[23] Unfortunately, several investigators later recommended the decapsulation only as a last resort. So did Talma, Bessesen,[21] Warbasse, Smyth,[35] and Bickham.[26] All of these used it after the usual conservative measures had failed and the patient was in a highly critical condition. The fact that even then successful results were obtained, under such unfavorable conditions, indicates that the bilateral decapsulation is not a dangerous operative procedure. Bancroft[22] made the same mistake, but still he once saved the life of a patient, in a case of transfusion kidney. He had used "every therapeutic aid that he knew of" before performing the bilateral decapsulation. On the eighth day of oliguria (30 cc per day) the blood urea nitrogen was 64 mg. per cent, the serum calcium was 4.8 mg. per cent and tetany was present. He did the bilateral decapsulation on the ninth day, when the patient was in extremis. Immediate relief followed and the patient recovered completely. Young[17] did the decapsulation also as a last resort, in a woman of 33 years of age, for transfusion kidney. He described the renal capsule as extremely tense. The patient recovered. Talbot[27] studied the effect of unilateral decapsulation on the fourth day of anuria in a woman suffering from a transfusion kidney. The patient recovered, but the procedure had no beneficial effect on the renal function. Probably the kidney-function would have been recovered completely, if the work of progressive destruction had not been allowed to last four days and if bilateral decapsulation had been done.

The chances for the patient are much better, if the damage to both kidneys lasts as short a time as possible, which can only be accomplished by bilateral decapsulation, performed on the first day that the anuria syndrome is diagnosed.

As far as restriction of fluid is concerned, a burdensome restriction is unnecesary, if the decapsulation is soon done, in order to diminish the intrarenal pressure.

Summary

1. A number of diseases are mentioned in this article, which sometimes are followed by oliguria or anuria, hyperazotemia and uremia. For abbreviation this combination is called the "anuria syndrome".

2. The mortality rate of this "anuria syndrome" was, until now, often for some cases, more than 90 per cent (crush injury) and for many others, as a rule, not lower than 60 per cent.

3. Experiments with an artificial nephron demonstrate that probably the primary cause of the oliguria or anuria is a decrease of the effective filtration pressure as a result of an increased intrarenal pressure. It could be demonstrated that in the artificial nephron an increase of a few mm. Hg. in the intrarenal pressure, may cause "oliguria or anuria". A slight reduction of an increased intrarenal pressure (which in vivo can be easily obtained by bilateral decapsulation) promptly restored the normal "urinary output". It is estimated from animal experiments, that bilateral decapsulation in human beings decreases the intrarenal pressure by about 50 per cent, which is undoubtedly sufficient to restore the normal urinary output.

4. The therapy proposed for the "anuria syndrome" in any disease in which it occurs should preferably be instituted immediately after the diagnosis is made. It consists of a bilateral decapsulation and restriction of fluid intake.

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Cholera Epidemic 1848-1849

From our recollection of the cholera of 1832 we are persuaded that the epidemic of 1848-49 differed in some respects from that of 1832; the discharges were not so frequent and profuse—the cramps less constant and obstinate and a much smaller number were rescued, after entering the stage of collapse, in the last than in the first epidemic.

Old residents and persons thoroughly acclimated were less liable to attacks of cholera than strangers newly arrived in the city.

The cholera attacked and carried off a number who happened to be labouring under chronic diarrhoea; this was particularly noted in the Charity Hospital where a large number of cases of this disease is always on hand.

It spared neither infant in its mother's arms nor the octogenarian, leaning upon his staff for support, who happened to be predisposed to the disease, from previous attacks of diarrhoea. It must be repeated, however, that very few of our citizens who could command all the comforts of life, were attacked with the disease; yet all were more or less under the epidemic influence.

During the prevalence of the cholera, many suffered from a mild form of influenza; in some instances, it was attended with catarrhal symptoms, and severe bronchial irritation accompanied with febrile disturbances, pains and soreness through the chest and muscular system generally. It rarely proved fatal, without the most reckless exposure and culpable neglect on the part of the patient.

New Orleans M. & S. J., 5:540 (January) 1849.

Diverticulosis and Diverticulitis*

• Is the trend toward prophylactic surgery in diverticulosis and diverticulitis of the colon justified? What complications and circumstances indicate surgery? In an attempt to answer questions such as these the authors have reviewed 300 of their cases, in which diverticulosis or diverticulitis was the diagnosis.

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ONE of the earliest accurate descriptions of colonic diverticula was that of G. Cruveilhier[1] in Paris in 1849. Interest in the subject in this country was stimulated in 1904 by E. Beer's publication, "Some Pathological and Clinical Aspects of Acquired (False) Diverticula of the Intestine."[2] This condition has been established by colonic radiologic study as a very common occurrence and its clinical significance has become obvious by the voluminous accumulated bibliography.

The advent of effective bowel sterilization and the possibilities of more radical colonic surgery have permitted an evaluation of the controversial issue of conservative medical management as opposed to radical surgical resection. Evaluation of the pertinent indications for surgical intervention is therefore timely. Surgery for complications is not questioned; but whether or not the uncomplicated case of diverticulosis is best managed by a conservative medical program has been challenged. The pertinent questions are: What complications and circumstances indicate surgery? Is there justification for the trend toward prophylactic surgery? With these issues in mind, we have reviewed 300 cases, in which a diagnosis of diverticulosis or diverticulitis of the colon has been made, in the hope that these data may be helpful in selecting a therapeutic program.

Etiology

Although as clinicians we are primarily dealing with a fully developed and, at times, a complicated entity, the genesis and pathology of this condition are important for the proper understanding and management of the problem. The exact etiology of diverticulosis is unknown; it has never been produced experimentally. A number of theories have been advanced. The infectious theory of Spriggs and Marxer[3] is based on repeated infections and insults to the colon with advancing years. It has been reasoned by some that excessive deposits of fat weakened the tissues and tended to promote herniation. It is very likely that inherited predisposition plays an important role for the entity occurs more consistently in certain families. There are certain factors, secondary or precipitating, superimposed on the susceptible individual which bear a direct relation to the development of the diverticula. These are substantiated by the following observations:

(1) Diverticula develop with advancing years; degenerative change might be expected with weakening of susceptible areas in the colon.

(2) The out-pouchings tend to occur at the areas where blood vessels penetrate the colon wall.

(3) Trauma (constipation and diar-

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* Presented at the Seventy-eighth Annual Meeting of the Louisiana State Medical Society in Shreveport, May 6, 1958.

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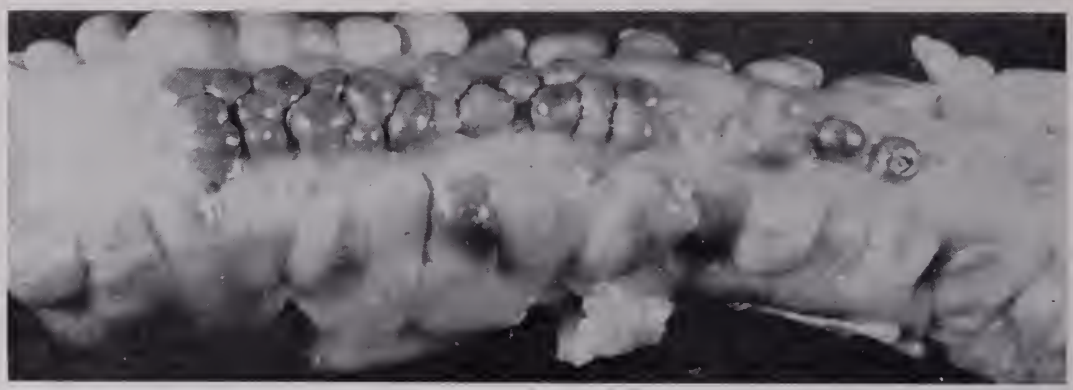


Figure 1. Gross appearance diverticulosis with surface cleared and bowel distended with air.

rhea) plays a part; the large percentage of our cases had constipation with purgative or enema abuse.

(4) The theory that intraluminary pressure may be a factor in the development of the diverticula, since they occur more frequently in the sigmoid area where the physiologic pressure is greater; (this is supported by Belding's report [4] of air insufflation inducing diverticulum perforation).

(5) Anatomic factors: the particular arrangement of the colonic musculature tends to create lines of weakness along which diverticula are more prone to occur. Obesity did not appear to be involved in this relationship.

Pathology

Grossly, these diverticula tend to occur in parallel lines or rows. When the fat is removed, they give the appearance of rows of out-pouchings. When filled with fecal content, they may have the bluish appearance of grapes.

The orifices of the diverticula on the mucosal surface are not always readily recognized, often being buried in the mucosal folds. The orifices may have a raised margin giving the appearance of a papilla.

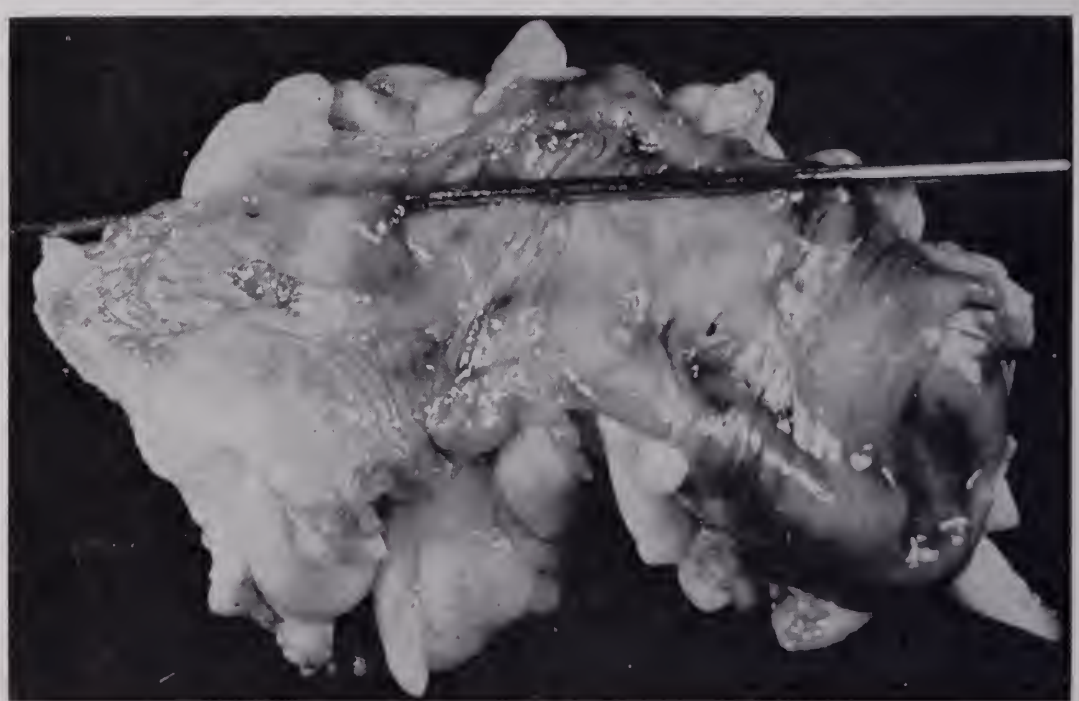


Figure 2. Fistulous like tract with serosal out-pouching some distance from mucosal artificial opening.

On occasion, areas of mucosal irritation with submucosal hemorrhage and abscess formation occur as the indication of diverticulitis. It is not always easy to follow the tract from the orifice to the diverticula for they may dissect through the subserous area and form a tract or pocket at some distance from the orifice. The microscopic as well as the gross appearance gives the picture of a herniation of the mucosa through the muscular layer, carrying muscular fibers with it for some distance. However, in instances where they have progressed, the muscular layer is ultimately lost and the outer surface consists of the serosa and the subserosal tissue. Differentiating between acquired or false diverticula and true diverticula on the basis of whether they carry through all the layers of the colon is not clinically important.

TABLE 1
AGE DISTRIBUTION OF 300 CASES OF DIVERTICULA OF THE COLON

Age Groups	No. of Patients
20-30	3
30-40	26
40-50	57
50-60	78
60-70	101
70-80	33
Over 80	2

Table 1 confirms the observation of increasing development with advancing years and suggests the acquired nature of the diverticula. Although it does not coincide exactly with many published statistics, a similar trend is established. A new geriatric problem arises with increasing span of life. We must anticipate an increasing percentage of colonic diverticular disease, diverticulitis, and surgical complications.

TABLE 2
BLEEDING IN 85 PATIENTS

Condition	No. of Patients
Rectal	31
Amebiasis	9
Rectum Carcinoid	1
Polyp	9
Carcinoma	8
Diverticula	27*

*(10 diverticulitis, 17 diverticulosis)

Eighty-five cases recorded rectal bleeding, either fresh red blood, blood streaked mucus, or darker wine-colored blood. Black or tarry stools were excluded. In 58 cases it was felt the blood might be accounted for by a specific finding other than the diverticula. Of the remaining 27 cases, 10 had a final diagnosis of diverticulitis, leaving 17 cases of diverticulosis in which bleeding must be accounted for on the basis of bleeding diverticula. This, of course, poses a problem. Do diverticula bleed with no demonstrable evidence of inflammatory reaction? The percentage is certainly higher than that usually recorded. Was there some other cause of bleeding undiagnosed and should such a situation constitute valid reason for considering prophylactic surgery? Keeping in mind the progressive nature of the disease and the excellent statistical follow-up of Wallace Greene [5, 7] in diverticulitis, one can see the importance of careful study of the diverticular case for source of bleeding other than the diverticula.

TABLE 3
LOCATION OF BLEEDING

Location	No. of Cases
Whole Colon	24
Cecum	50
Ascending Colon	60
Transverse Colon	60
Descending Colon	225
Sigmoid	245

Improved technique in x-ray examination may well account for the change in percentage location of this group. Twenty-four instances in which the whole colon was involved are somewhat above the average, yet it confirms the fact of increased occurrence in the left half of the colon. It is noteworthy that there is no instance of rectal diverticula recorded, and proctoscopic examination was of so little value that it only deserves mention. Its chief value was not in visualizing diverticula in the rectosigmoid but in encountering pain, fixation, blood, and rectal pathology.

It should be noted in Table 4 that 61.8 per cent of females complained of constipation while a greater percentage of

TABLE 4

	No. of Cases	Constipation No.	Constipation %	Diarrhea No.	Diarrhea %
Female	165	102	61.8	20	12.2
Male	135	41	31.1	36	26.8
Total	300	143	47.7	56	18.7

males had diarrheal episodes. In both of these conditions of altered physiology normal pressure of the lower colon is affected and a greater chance of mechanical damage exists, as well as a greater possibility of infection. There seems to be little question that there is an increased susceptibility to functional disorders of the colon in the diverticular case in general. It will be noted from Table 5 that in 130 instances it was our opinion that the patients' symptoms were related to the diverticula, although a diagnosis of diverticulitis was made only 78 times.

TABLE 5
SYMPTOMS RELATED TO DIVERTICULA

Related	Not Related
130	170

The fact that 170 cases had no established relationship of symptoms to diverticula cautions against accepting diverticula as a causative factor in abdominal discomfort too hastily.

The diagnosis of diverticulosis of the colon in the living is made primarily by x-ray, with a few recorded instances of proctosigmoidoscopic visualization of the diverticula, but our success with this procedure has not been comparable to that reported by Jackman.[6] The clinical diagnosis of diverticulitis is made on the following findings: attacks of localized pain; localized tenderness, on pressure or rebound; a palpable mass, progressive or decreasing in size; evidence of inflammation; bloody stools with negative examination for colonic infection, protozoal or bacterial pathogens; a history of recurrent episodes may be of much help; finally, by proper x-ray studies.

It will be noted in Table 6 that x-ray diagnosis of diverticulitis was made in 90 instances; whereas the final clinical diagnosis was only 78. This discrepancy may be explained on the basis of the criteria depended upon.

Roentgen Findings Indicative of Diverticulitis of the Colon

1. Pain, tenderness, and fixation of the involved colonic segment.
2. Narrowing of the diverticula area with interhaustral edema.
3. A localized segment with numerous diverticula in close opposition.
4. Sawtooth outline of the colon with incomplete outline of diverticulum.
5. Shortening of the involved area.
6. Demonstration of a fistulous tract.
7. Compression defect on the outline of the lumen.
8. Demonstration of a "reasonably intact" mucosal pattern in the area of involvement.
9. Persistent unchanged findings on repeated examination.

It is entirely possible to have a roentgen impression of diverticulitis without a confirmatory clinical picture. Inflammatory changes, and even mechanical factors, may occur intermittently in isolated areas and subside without progression to the point of a reasonable clinical picture. Conversely, mechanical changes may result in an altered functional pattern without true inflammatory reaction.

After aplying one or more of these re-

TABLE 6
DIAGNOSIS — 300 CASES DIVERTICULA OF COLON

X-ray	X-ray	Final Clinical Diagnosis
Diverticulosis	Diverticulitis	Diverticulitis
276	90	78

TABLE 7
DIVERTICULITIS — SURGICAL CASES

No. of Cases	No. Operated	Mortality
78	37	0

quirements in conjunction with clinical evaluation, a final diagnosis of diverticulitis could be justified in 78 cases. Thirty-seven of these were felt to have complications indicating surgical intervention. There was no mortality.



Figure 3. Illustrates extensive diverticulosis in a 55 year old white male complicated by perforation, localized abscess and peritonitis.

The complications of diverticular disease of the colon which project surgery into consideration may be summarized as: (1) subacute and chronic perforation with localized penetration and abscess formation; (2) acute perforation with generalized peritonitis; (3) fistulous formation, internal and external; (4) sudden exsanguinating hemorrhage; (5) recurrent or chronic bleeding; (6) recurrent localized segments of diverticulitis with pericolitis and pain; (7) obstruction from edema and stricturing, partial and complete; and (8) lesions associated with carcinoma or



Figure 4. Illustrates diverticulosis with malignancy in a 67 year old white female.

with equivocal x-ray pattern (Figs. 3 and 4).

With any of the true complications, appropriate surgical intervention is indicated. There are, however, situations which deserve individualization:

1. The diagnosis of "bleeding diverticula" made on the basis of blood in the stools and an x-ray report of "diverticulosis with diverticulitis" with more definitive information, is too frequently a casual, inconclusive diagnosis. A resection of all or part of the colon will not control bleeding when the source of hemorrhage is the upper gastrointestinal tract. Such experiences emphasize the necessity of careful evaluation before a few colonic diverticula are used to justify radical surgery. Diverticula are very common, but hemorrhage from them is relatively rare.

2. The instances of equivocal x-ray patterns project the need for sincere clinical evaluation. There is no indication that diverticulitis is a precursor of malignancy; however, the frequency of diverticulosis permits concomitancy. Any defect in which the x-ray pattern and clinical evaluation leave reasonable indecision as to the nature of the lesion demands surgery. Diverticulitis which presents this confusing picture in itself justifies removal because the process usually will be progressive, recurrent, and complicated.

3. Localized, recurrent, and persistent, smoldering diverticulitis poses the question of prophylactic resection. The decision involves astute judgment after adequate medical management. Diverticulosis of the colon is so common to the older age group and is so often associated with age anticipated functional disturbance of the colon that, unless great care and restraint are exercised, we fear unnecessary surgery will result. This group should again be individualized and careful follow-up applied before this decision is made. There is seldom an emergency and the differentiation of the functionally disturbed colon from this type of diverticulitis is often difficult. The degree of morbidity should be one of the deciding criteria. We are a little fearful of the potential in the present trend toward prophylactic surgery, yet we do advocate it in carefully selected cases.

The uncomplicated case of diverticulosis unquestionably should have conservative medical management and, as a rule, requires little medication, but should be managed with a prophylactic attitude. Instances in which functional disturbances of the colon are prominent ("irritable colon syndrome") require dietary and medical control, antispasmodics with selective smooth muscle action, such as Cantil and Bentyl. Anticholinergic agents, especially when hypermotility and diarrhea are prominent, afford symptomatic relief. Addition of sedation enhances the effectiveness of these agents. Sulfonamides find a place in therapy when infection and diverticulitis are suspected. Exclusion of coarse fibers and seeds, irritating condiments, especially the pepper group, has a rationale. However, bland volume is requisite and when not practical in the diet, hydrophylic substances such as sodium methyl cellulose may be added to insure a soft, formed stool. The judicious use of mineral oil is permissible. The detergent fecal softeners, such as sodium lauryl sulfate and doxinate are adjunctives. Laxative foods such as honey, prune juice, and citrus fruits may be included in a dietary program. Evidence cautions against routine use of purgatives and enemas except the judicious use of mineral or vegetable oil as a rectal instillation. This is a therapeutic and prophylactic program suggested to prevent diverticulitis. Care should be exercised not to develop a colon conscious patient.

Summary

1. Three hundred patients with diverticula of the colon have been reviewed.

2. An appraisal of the etiological factors, pathology, symptomatology and complications has been presented.

3. Diagnostic criteria for diverticulosis and diverticulitis have been emphasized.

4. Medical management of diverticulosis has been suggested.

5. Indications for surgical intervention have been stressed along with the importance of the bowel preparation. Extreme caution should be exercised in considering any form of prophylactic surgery, restricting it to instances of recurrent bleeding, recurrent localized inflammatory reaction, and equivocal x-ray findings.

Note: We wish to express appreciation to Dr. Donald M. Bradburn, Dr. Ambrose J. Hertzog, and Dr. Lawrence H. Strug for material and cooperation in preparation of this study.

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Historical Note

The well known catastrophe of 1811, that violent commotion of the bowels of the earth, of which Louisiana, and in particular New Madrid were the scenes of action, has in no small degree contributed to the insalubrity of this country. * * * Towards the end of a dull though cloudless November evening, some rumbling subterraneous sounds, the first signs of the impending tragedy, were closely followed by severe and rapid shocks;—whilst the inhabitants alarmed in the extreme, fled to a neighboring prairie, the earth rocked like a heaving sea, crevices opened under their feet;—day finally appeared, but it was only to exhibit to their sight trees and houses violently jostling against each other. Soon after, the whole town disappeared, leaving but a single house as if to indicate to the bereaved families the spot but so lately occupied by their respective dwellings. On the one hand, lakes were replaced by hills covered with thousands of live fish, which still gave evidence of the sudden metamorphosis; on the other, extensive prairies and vast fields sunk in, and became in their turn lakes of considerable depth. The banks of the river, formerly so elevated, were suddenly lowered more than forty feet; — immense innundations encroached upon the soil; and lower Louisiana became one of the most terraqueous districts on the surface of the earth.

Report Made by the Royal Academy of Medicine (Paris) upon the Memoir of Dr. Halphen, New Orleans M. & S. J. 5:648 (March) 1849.

The Tulane University Cancer Detection Clinic

• In thirteen years of continuous operation, a total of 11,154 patients have been examined. The clinical findings obtained by multiphasic screening give evidence of the value of this type of detection clinic to both the patient and the physician.

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THE Tulane University Cancer Detection Clinic completed over thirteen years of continuous operation June 30, 1959. It has functioned since March 1, 1946, under the auspices of the Orleans Parish Medical Society and the standards established by the American College of Surgeons for the operation of such clinics. Staffed by the Tulane Medical School (Hutchinson Memorial Clinic), the clinic is in operation two mornings weekly for the examination of well and asymptomatic individuals.

The examinees are limited to one examination in a ten-year period and each is advised that the results of the examination must be obtained from his or her own physician. Emphasis is placed upon the fact that the examinee's physician will determine the significance of the findings and will decide on the need for further diagnostic procedures and treatment if indicated. The individuals are encouraged to see their own physicians for periodic health examinations.

The clinic has been financed by annual grants from the Louisiana Division of the American Cancer Society from 1946 to 1959, from the Louisiana State Health Department from 1951 to 1959, by assistance from Tulane Medical School, and by donations from examinees.

The Tulane University Cancer Detection Clinic has been aided by yearly grants from the Louisiana Division of the American Cancer Society, 1946-1959, and from the Louisiana State Department of Health, 1951-1959.

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History

While the first clinic of this type was founded by Dr. Elise L'Esperance [1] at the New York Infirmary in 1937, this type of investigative and educational program did not progress until after World War II. With two others in New York and one in Philadelphia [2] prior to the War, there was a rapid development of such clinics throughout the United States early in 1946; primarily all of these were demonstration units with considerable individual variation in their scope of procedures.[3] This program rapidly gained considerable momentum as a result of the increased interest of both lay and professional groups in health preservation as particularly applied to malignant and nonmalignant degenerative disease. This attention to the control of disease early in the natural course of the pathological process was enhanced even more by the progressive interest in the same problem of health maintenance of the well person by the Armed Services and by industry. The Tulane University Cancer Detection Clinic was among the first to function, beginning in March, 1946.[4] In 1947, the American College of Surgeons presented minimum standards for the operation of such clinics in conjunction with the local medical societies. By 1949, there were over 250 such clinics in operation throughout the United States, largely through the interest and financial grants from the American Cancer Society.[5, 6] In January, 1959, there were about 200 detection clinics still in operation.[7, 8]

During its thirteen years of operation,

the Tulane University Cancer Detection Clinic has adhered to the standards set up during the initial development of these clinics. At the meeting of the Committee on Cancer Detection, International Union against Cancer, in Brussels, 1957, the Tulane University Detection Clinic was used as one of the twenty-one clinics considered representative of this program in the United States.[8] In a summary presented at this meeting, it was reported that the Tulane Detection Clinic had carried out its objective throughout the entire period, namely:

"1. To provide a complete and thorough physical examination for apparently well persons in order to detect cancer and pre-cancerous lesions earlier than would otherwise be the case, as well as to reveal early manifestations of other disease.

"2. To promote effective preventive medicine by initiating and encouraging the pattern of regular physical examinations of apparently well persons by their own physicians.

"3. To develop and maintain an educational program for professional personnel, students and the public in the detection and prevention of disease processes, in particular cancer and degenerative diseases.

"4. To develop and evaluate new diagnostic techniques suitable for use in both large scale and office routine examinations, and to correlate data for future reference related to the detection and prevention of these disease processes."

Procedures

The multiphasic screening[9] includes a complete general history, using the Cornell Medical History as a supplement to the clinician's history, a complete general physical examination and genital examination for each sex, a sigmoidoscopy, if acceptable, and Papanicolaou cervical cytological studies (routinely between 1946-1949 and July, 1957 to date). Biopsies

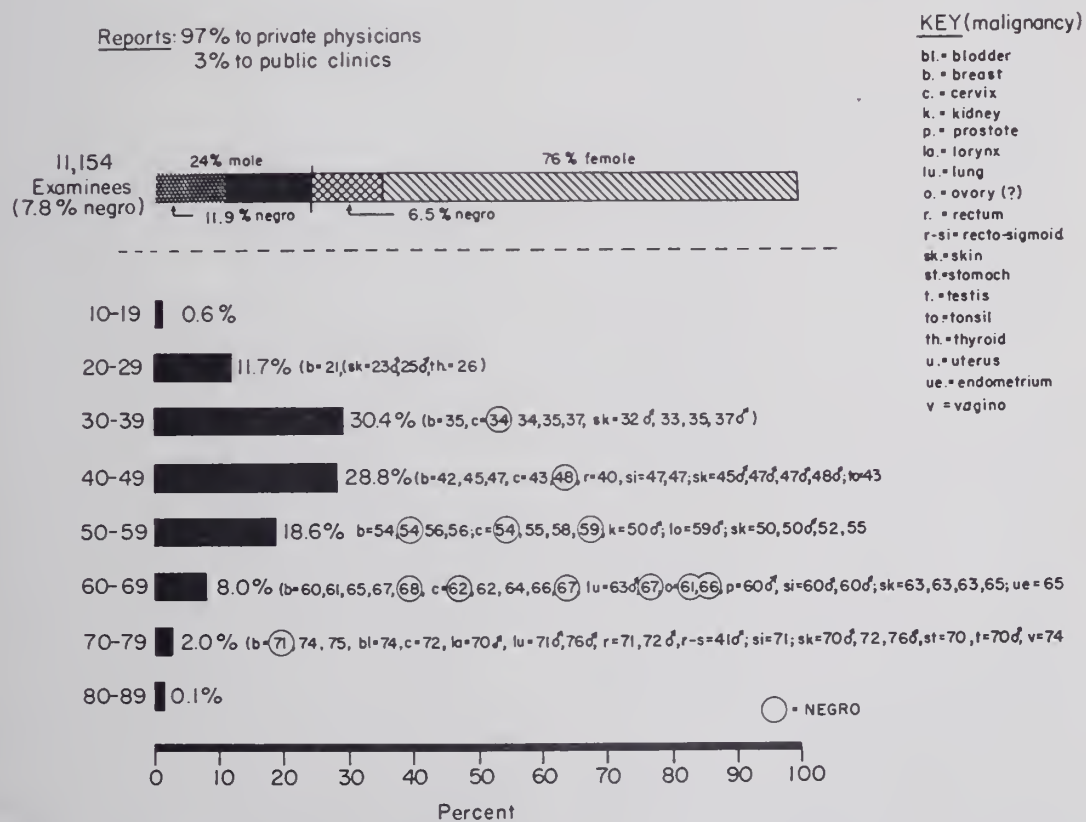


Figure 1. Age, race, and sex distribution of apparently well and asymptomatic examinees between 1946 and 1959. Proved, unknown malignancies are indicated for each age group with the male indicated by symbol.

have never been performed in compliance with the Orleans Parish Medical Society's desires. A chest X-ray, complete blood count, urinalysis, Wassermann, and Kahn tests complete the laboratory studies.

Clinical Findings

A total of 11,154 individuals were examined up to June 30, 1959. Of these, 97 per cent had their reports sent to private physicians and 3 per cent to public clinics; 21 per cent were males and 7.6 per cent were Negroes. The yearly distribution remained remarkedly constant each year, with those in the 30 to 49 year age group forming the majority of the examinees (Figure 1). These persons were either gainfully employed in a variety of occupations or were homemakers. The vast majority were from the Greater Metropolitan Area of New Orleans, although a number were from other parts of Louisiana. Classification of the clinical findings is given in Tables 1 and 2.

TABLE 1
CLINICAL FINDINGS — EVIDENCE OF MALIGNANCY

I. Malignancies (proved by biopsy taken by the examinee's physician)	80 (0.72%)
Bladder	1
Breast	17
Kidney	1
Larynx	2
Lung	4
Ovary	2
Prostate	1
Rectosigmoid	1
Rectum	3
Sigmoid	5
Skin	21
Stomach	1
Testis	1
Thyroid	1
Tonsil	1
Uterine cervix	16
Uterine endometrium	1
Vagina	1
II. Conditions or benign neoplasms of premalignant significance (figure 2):	465 (4.17%)
III. Strongly suggestive clinical evidence of malignancy (clinically malignant but requiring biopsy)	185 (1.66%)
IV. Suggestive clinical evidence of malignancy (malignancy not to be excluded except by biopsy)	212 (1.90%)
V. Possible malignancy (malignancy not a likely diagnosis but to be excluded)	4239 (38.00%)

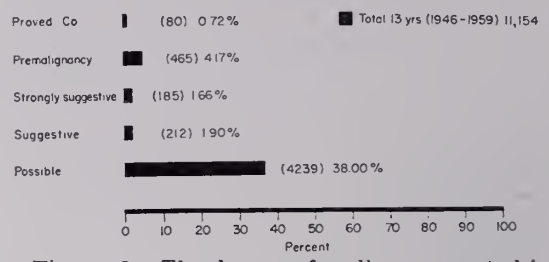


Figure 2. The degree of malignancy noted in the 11,154 consecutive examinees.

TABLE 2
CLINICAL EVIDENCE OF NONMALIGNANT DISEASE

A. Cardiovascular Disease:	2250 (20.17%)
1. Heart Disease	829 (7.43%)
2. Vascular Disease	1421 (12.74%)
B. Eye-Ear-Nose-Throat Disorders:	659 (5.90%)
C. Gastrointestinal Disorders:	2506 (22.47%)
D. Genitourinary Disorders:	730 (6.54%)
E. Glandular Disorders:	1643 (14.73%)
1. Breast	1071 (9.60%)
2. Liver and Biliary Tract	305 (2.73%)
3. Pancreas	69 (0.62%)
4. Parathyroid	1 (0.01%)
5. Salivary Glands	2 (0.02%)
6. Thyroid	171 (1.54%)
7. Testis	17 (0.15%)
F. Hemic and Lymphatic Disorders:	97 (0.87%)
1. Spleen	9 (0.09%)
2. Lymphadenopathy	88 (0.78%)
G. Gynecologic Disorders:	9866 (65.30%)
H. Infectious Disorders:	88 (0.79%)
I. Positive Laboratory Findings: (needing investigation)	4359 (40.00%)
J. Metabolic Disorders (excluding thyroid and pancreas):	6 (0.05%)
K. Musculoskeletal Disorders	568 (5.00%)
L. Neurological Disorders:	83 (0.75%)
M. Nutritional Disorders	767 (6.90%)
N. Psychogenic Disorders	327 (2.93%)
O. Respiratory System Disorders	424 (3.80%)
P. Skin Disorders	823 (7.50%)
Q. No Significant Abnormalities	90 (8.08%)

Comments

It is to be expected that a number of individuals entered the clinic by denying symptoms, but this number has been considered small. The application of the screening procedure actually revealed pathology varying in significance in 92

to 93 per cent of the examinees. The fact that a great amount of this occurred (59%) in the younger age groups, in conjunction with the fact that larger numbers of these productive members of the community were interested in health maintenance examinations and procedures, suggests that such examinations will result in a considerable total yield of abnormalities in these well but not normal individuals. It was to be expected that the percentage of abnormalities would be higher in the older age groups. These persons did not respond in numbers to the opportunity for the health examinations.

Although the examinees considered themselves well and had not been examined by physicians in the preceding six months, their histories indicated that there had been knowledge in the past of detected disease which was asymptomatic at the time of the examinations. However, of particular importance is the malignant and nonmalignant disease of which the examinees were completely unaware.[10] (Table 3)

TABLE 3
PROPORTION OF DISEASE UNKNOWN TO EXAMINEES

Malignancy	100%
Gynecological disease	96%
Hypertension (diastolic)	72%
Hypertension (systolic)	63%
Genitourinary disease	57%
Respiratory system	48%
Glandular disease	38%
Gastrointestinal disease	20%
Vascular disease	20%
Heart disease	11%
Otolaryngological disease	6%

It is apparent that all of these varied in significance, from the potentially fatal malignancies, all of which were unknown, to the lesser significant sinusitis of the otolaryngological group, of which only 6 per cent was unknown. Similarly detected gynecological disease was unknown in over 95 per cent of the cases. While most diagnoses such as cervical erosion or cervicitis would appear to warrant little immediate alarm, it has been the experience of the clinic that, if biopsies were taken by the physicians receiving the reports, a minimum of 3 per cent would prove malignant. Likewise, hypertension, heart disease, thrombophlebitis and nephritis, detected prior to the development of parenchymatous sequelae, are of great significance.

From the aspect of public education it would appear that the clinic examination has stimulated the person to person orientation on the value of periodic health inventories. From the number of examinees requesting re-examinations, who are refused and referred to their own physicians, it would suggest that increasing numbers are amenable to returning periodically to their physicians for yearly screening examinations. From the aspect of community education, this person to person contact (no publicity has been given to the clinic) has been of value in stimulating group consideration of health maintenance by their physicians.

Summary

1. The background and history of the Tulane University Cancer Detection Clinic are presented.

2. The clinical findings of the Tulane University Cancer Detection Clinic have been classified for the thirteen-year period, March, 1946 to June 30, 1959.

3. The value of a multiphasic screening office type examination is discussed from the aspect of the yield of significant abnormalities to be expected in well and asymptomatic young adults.

4. The value of this type of clinic is discussed as a stimulus to the productive individuals of the community to report regularly to their own physicians.

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Health of the City and Country

The Cholera, though gradually and steadily declining, still lingers in our city, and we know not when we shall be able to announce its total disappearance from New Orleans. Still it retains a feeble hold upon our population as shown by the deaths from this disease, for the week ending 17th February, amounting to 64, and for the week previous, about 80, thus indicating a diminution of 20 deaths weekly.

About the middle of February, we had several days of rainy weather, when the wind suddenly veered around to the North, and we had a heavy sleet, accompanied with ice more than an inch in thickness. The thermometer fell as low as 26° just before sunrise; and even at mid-day, evidences of the freezing were abundant in our streets. We have not been able to learn that this remarkable, this unprecedented cold weather affected to any serious extent, the salubrity of our population; on the contrary, we believe it has had a decidedly favorable influence. During the latter part of February we had our usual mild and balmy weather. * * * Whether the cholera superseded or absorbed our usual winter diseases or not, certainly we have been less afflicted than usual with this class of affections.

New Orleans M. & S. J. 5:669 (March) 1849.

Cataract Surgery; Operative Technique

• The technique of cataract surgery when trained assistants are not available is discussed.

LOUIS ANDREW BREFFEILH, M. D.*
Shreveport

IN 1951, I moved from a large ophthalmological center to a smaller community with limited facilities. The surgeon had to furnish his own instruments and personally supervise the sterilization and care of solutions, as well as the preparation of the patient. The lack of trained assistants and nurses made the change of my surgical procedures imperative. I felt that the operative technique should be flexible and changed as necessary to fit the situation. After much consideration the following procedure was devised as a basis for cataract surgery and variations in technique were made as needed.

Preoperative Preparation

The preoperative preparation, consisting of a negative smear and culture of the conjunctiva and the medico-legal procedures, are completed before the patient is admitted to the hospital. The eyelashes are trimmed in the office as a preoperative preparation, thus marking the eye to undergo surgery.

Preoperative medications consist of thorazine, 25 milligrams, on admission and repeated at 6 a.m. An antibiotic of choice is given on admission and at 6 a.m. Seconal, grains 1½, is given orally at bedtime. Sodium luminal, grains 2, and adrenosem salicylate, 5 milligrams, are given intramuscularly at 6 a.m. Demerol, 50 milligrams, or nisentil, 40 milligrams, may be administered at 6:30 a.m., if desired.

As the operating room is also used for general surgery, the ophthalmic surgery should be performed first, in order to reduce the chances of contamination.

Anesthetic

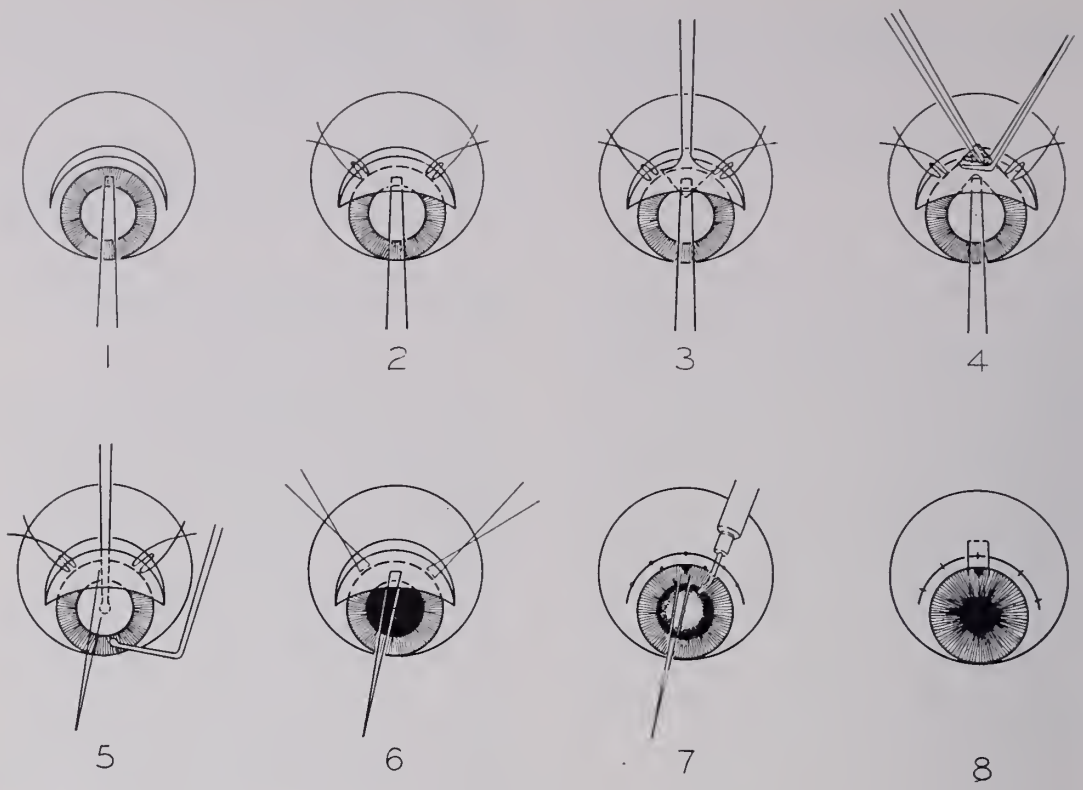
The local anesthetic consists of ½ per cent tetracaine or 4 per cent cocaine solution as drops to the cornea. Two per cent xylocaine or procaine with hyaluronidase (one drop to each cubic centimeter of anesthetic) is injected for akinesia. If not contraindicated, epinepherine hydrochloride is added in a 1:50,000 dilution. An O'Brien, Van Lint, or combined procedure may be used with retrobulbar injection. Such anesthetic will last approximately forty-five minutes; thus surgery must be smooth, simple and with no lost motion.

Operative Technique

The skin and adnexa are prepared with green soap, saline and metaphen 1:2,500 solution. Phisohex and 1:1,000 zephiran chloride solution may be used if the cornea is protected and thoroughly irrigated after its use. The anesthetic is injected and the head draped with the eye exposed. Traction sutures of 0000 black silk are placed in the upper and lower eyelids and beneath the superior rectus tendon. Mosquito forceps are used as traction weights. These sutures are easily released if it becomes necessary to close the eyelids during surgery or to release the tension on the superior rectus muscle.

A corneal traction double arm 000000 mild chromic catgus suture is placed near the limbus at twelve o'clock as shown in Figure 1. This suture will be used by the assistant to retract the cornea during the intraocular portion of the surgery. A conjuctival limbal base flap, as shown in Figure 1, is prepared from three to nine o'clock. The flap is freed to the limbus. A groove

* Clinical Assistant Professor of Ophthalmology, Division of Post Graduate School of Medicine of Louisiana State University Medical School at Confederate Memorial Hospital in Shreveport, Louisiana.



Figures 1, 2, 3, 4, 5, 6, 7, 8

incision is made in the sclera about one millimeter behind the limbus using the Von Graefe or Lundsgaard knife. This site was chosen after studying various positions and places of the incision. It was found to result in less postoperative keratitis and prevented bullous keratitis in six patients who had surgical failures in the other eye due to this condition. These cases are in publication.

Two 000000 chromic catgut sutures are placed through the adjoining edge of the grooved incision at about ten and two o'clock, as shown in Figure 2. These sutures are to be buried beneath the conjunctival flap on closure of the incision. A keratome is used to complete the groove incision into the anterior chamber as shown in Figure 3. The incision is widened with corneal scissors, and a muscle hook or forceps may be used to separate the sutures during this procedure. The sutures are then prepared for tying. The assistant retracts the cornea with the preplaced suture, and a peripheral iridectomy is performed as shown in Figure 4. The Arruga forceps or Bell erisophake is applied to the lower pole of the lens capsule. The muscle hook is applied to the cornea at the limbus for counter pressure, as shown in Figure 5. The lens is extracted by the tumbling technique. The preplaced sutures are then tied as shown in Figure 6.

The conjunctival flap is then closed with continuous or interrupted 000000 chromic or plain catgut sutures. Air is injected into the anterior chamber as shown in Figure 7. The pupil usually constricts due to the iris trauma. One-half of one per cent pilocarpine may be instilled if the pupil fails to constrict.

The corneal traction suture may be carried through the conjunctiva and tied as a mattress suture as shown in Figure 8. This gives a tighter approximation of the wound at twelve o'clock.

The iris may be caught in the wound but this is not a serious complication. By the time the sutures are tied, the air injected into the anterior chamber, and the

pilocarpine instilled, the iris has usually returned to its normal position. If these measures fail, then pressure on the conjunctiva at the wound site will reposit the iris in most patients. If all else fails, the iris repositor is easily inserted beneath the conjunctival flap and the iris reposited.

An antibiotic ophthalmic ointment may be safely instilled in the conjunctival sac. Both eyes may be bandaged. In patients with senile psychosis the unoperated eye is not bandaged to aid orientation. The eye is rebandaged the night after surgery as tearing makes the eyepads uncomfortable. One per cent atropine is usually instilled to relieve iris spasm and to prevent adhesions to the hyaloid membrane. The unoperated eye may be left unbandaged if desired.

Postoperative Care

Postoperative care consists of making the patient as comfortable as possible. The backrest may be raised or lowered as desired. Turning on the unoperative side with a pillow to the back is permissible. The diet consists of soft foods for four days and thereafter a regular diet. Sedation may be demerol, nisental, or seconal as needed. Aspirins and salicylates are not permitted in any form, as I feel that these medications cause hemorrhages, especially on the fourth to sixth day. Postoperative hemorrhage is rarely seen since this medication has been discontinued. Bathroom privileges are permitted on the third or fourth day. The patient may be discharged on the fifth or sixth day.

Discussion

The advantages of this procedure of cataract extractions are numerous. Surgery can be performed without a trained assistant. The preplaced sutures can be closed if the vitreous presents. Especially important is the immediate closure after the lens is extracted. Chromic catgut sutures do not have to be removed, and this is a blessing in the nervous patient. Although these sutures are more irritating than silk sutures, the patients prefer this discomfort to the ordeal of suture removal. The conjunctival limbal base flap lessens the dangers of epithelial down growth and converts a prolapsed iris into an iridotasis and further surgery is not usually indicated. Consent for further surgery on the eye is usually difficult to obtain; thus avoidance of complications which necessitate further surgery is imperative.

This surgical technique has been used for the past four years on 191 cataract extractions. Only 3 patients have had to have further surgery which consisted of discissions in extra capsular extractions.

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Editorial

Epidemic Neuromyasthenia

A clinical syndrome, to which the term "epidemic neuromyasthenia" has been applied, has been described in various countries and under a variety of names. A recent review of this disorder [1] by Fraumeni summarizes the available knowledge on the subject and presents it as a clinical problem which may concern physicians in all fields. Various outbreaks have been termed: "Iceland disease," "Akureyri disease," "benign myalgic encephalomyelitis," "benign subacute encephalomyelitis", "epidemic vegetative neuritis," "Durban mystery disease," "acute encephalomyalgia," "poliomyelitis suspect," "poliomyelitis-like illness," "lymphoreticular encephalomyelopathy," "Royal Free disease," and "epidemic neuromyasthenia."

This disorder has been reported as following a stubbornly protracted and relapsing course. It is marked by variable and multiple symptoms, prominent among which are fatigue, malaise, headache, fever, stiffness of the neck and back, muscular weakness, myalgia, paresthesias, vasomotor instability, gastrointestinal and genitourinary disorders. In addition to these, emotional disturbances may be present.

The clinical features are marked by a wide variety and diversity of symptoms such that some patients have only minimal systemic complaints; others have disturbing neuromuscular, vasomotor, or mental disorders. There is a prodromal period varying from one to thirty days during which the onset of the disease is insidious. In such a period there may be lassitude, malaise, headache, low fever, pains in the back, occiput, and shoulders. This period may be followed by an intensification of the same symptoms, during the course of which the temperature may vary from two or three degrees below the afternoon peak. This is seldom above 100. Muscular weakness and paresis usually appear. The paresis is flaccid and shows great variation in location, in intensity, and in extent. Complete or lasting paralysis has not been described. The tendency is for the paresis to improve, but its course will be marked by relapses and variations.

The myalgias constitute a variable but impressive symptom, which may point

the finger of suspicion toward the disease. Pain and tenderness about the neck and shoulders are reported as the most constant feature of the condition. Pains are frequent in the extremities, are described as being deep, and are observed to be migratory and relapsing. Discomforts in the muscles are intensified by exertion. Abdominal pain, cramping in character, together with markedly tender abdominal muscles, may appear.

Objective neuromuscular abnormalities are not prominent. Kernig's sign is rarely positive. Tendon reflexes are usually normal, and plantar responses are flexor. Certain investigators, however, have reported blurred vision, pupillary anomalies, diplopia, ocular and soft palatal paresis, trigeminal pain and paresthesias, hyperacusis, perceptive deafness, tinnitus, nystagmus, vertigo, facial weakness, and mild bulbar palsy. Hyperesthesias have been disturbing and disabling. These included sensations of numbness, tingling, burning, and formication.

Vasomotor instability has been shown by intermittent coldness and warmth of an extremity.

Gastrointestinal symptoms vary from the mildest to confusing complaints of cramps, flatulence, diarrhea with mucus, constipation, projectile vomiting, or anorexia.

Urinary symptoms have been difficulty in micturition, retention, polyuria, or incontinence.

Mental disturbances described have been depression, confusion, irritability, crying spells, disturbed sleep, and traditional "psychoneurotic symptoms."

The duration of the disorder is uncertain. In a small proportion recovery has followed the acute phase within one to two months. In the report on the Icelandic epidemic only 11 per cent of 57 cases were completely free of symptoms seven to ten months after the disease began. Another report from Iceland found only 13 per cent of 39 patients previously examined to be fully recovered after six years.

This disease has been approached from the laboratory standpoint without startling findings, or without clarification as to cause. Electromyography has "convincingly demonstrated retention of nerve conduction and absence of lower motor neuron degeneration." Cultures for viruses, and complement fixation tests with many antigens have been negative. The disease is not fatal and there are no autopsy reports.

The epidemiology of the condition is one of the central points around which recognition becomes possible. The condition seems to appear explosively within schools, and institutions, particularly medical or nursing staffs of hospitals. The mode of transmission is not known. The suggested incubation period has varied from a week up to eighteen days.

The variability of the clinical picture and the absence of distinctive laboratory findings has suggested to some that the epidemics are exhibitions of mass hysteria. In opposition to this is the occurrence in epidemics of the comparatively uniform complaint of painful muscles of the neck and shoulder girdle, protracted course, its appearance under a variety of conditions not inherently conducive to hysteria.

The treatment recommended has been symptomatic.

A disease of this type, presenting an extreme variability of symptoms and clinical findings, could very easily become the neurotic's delight. However, when the clinician has knowledge of its existence and an active suspicion, he will have a greater chance of avoiding the pitfall of mislabelling it as a syndrome of purely functional symptoms. Since twenty or more epidemics have been reported, there is a reasonable expectation that endemic instances of the disease are occurring in which the true diagnosis is difficult to make.

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[1] Fraumeni, Joseph F.: Epidemic neuromyasthenia, Sou. M. J. 52:1192 (October) 1959.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

INSURANCE INFORMATION

Nine out of every ten persons who have health insurance coverage for hospital care also have protection against the cost of surgery, the Health Insurance Institute reported.

In addition, six out of every ten persons with hospital expense insurance now have regular medical expense insurance, which helps pay for doctor visits for nonsurgical care.

In the past decade there has been a sharp rise in the proportion of persons who have improved their health insurance protection by covering themselves against more than one type of medical expense, the Institute stated.

In 1948, some 61 million persons had hospital expense insurance. Of this number, 34 million, or 55.8%, also had surgical expense insurance and 13 million, or 21.1% had regular medical expense insurance.

Ten years later, at the end of 1958, the number of Americans with hospital expense insurance had more than doubled to reach 123 million. Of this sum, 111 million, or 90.6% also were covered against the costs of surgery, and 75 million, or 61.3%, were protected against regular medical expenses.

Through the decade there has been constant progress in increasing the proportion of persons with hospital insurance who also are covered for surgical expenses and regular medical expenses, as shown below.

Per Cent of Persons with Hospital Insurance Who Also Have Surgical Insurance and Regular Medical Insurance

Year	Surgical	Regular Medical
1948	55.8%	21.1%
1949	62.3	25.5
1950	70.7	28.2
1951	76.0	32.5
1952	79.7	39.2
1953	83.2	43.9
1954	84.6	46.6
1955	85.4	51.6
1956	87.4	56.0
1957	89.7	59.1
1958	90.6	61.3

We hope that our members will avail themselves of the splendid group health and accident insurance plan offered by our Society. Our plan is considered one of the best offered any professional group.

If you will compare our policy with any policy you may have at the present time, you will find that the following attractive features should be of vital interest to you:

1. Payment from the **first** day of hospitalization or the eighth day of total disability retroactive to the **first** day).
2. Premium payments waived after six months' continuous total disability, during the remainder of the period for which benefits are payable.
3. Sickness disabilities after the effective date regardless of the date of origin of ailment. Once coverage is in force, it cannot be changed to eliminate coverage of this ailment.
4. House confinement not required.
5. Benefits are never reduced by reason of nonconfining disability.
6. World-wide coverage.
7. The only exclusions are pregnancy, suicide, war, military service and flying other than commercial scheduled flights.
8. Local claim service.

Our plan is underwritten by Continental Casualty Company of Chicago, recognized to be one of the largest and strongest companies, and is being administered by Emery and Kaufman, Ltd., a New Orleans firm, 314 Camp Street.

Should you desire information, please contact the State Society office, or Mr. H. G. Lyman, Agent, 314 Camp Street (JA 2-7221).

A.M.A. CLINICAL SESSION

The thirteenth clinical meeting of the American Medical Association will be held in Dallas, Texas on December 1-4, and over 3,500 physicians will be in attendance.

We hope Louisiana will be well represented and will participate in the proceedings. A good meeting is expected and a scientific treat as well as a number of social events will be awaiting you.

The headquarters hotel will be the Dinkler Plaza where the House of Delegates sessions will be held. The scientific sessions, including medical motion pictures, television, symposia, lectures and over 100 scientific exhibits, will be available in the Dallas Memorial Auditorium. Commercial exhibits will also be at the Auditorium.

An added attraction for visitors will be the world's largest health fair sponsored by over 1100 local doctors in conjunction with the A.M.A., where over 150 educational exhibits will be open to the public.

The Louisiana State Medical Society will participate along with the Arizona, Oklahoma, New Mexico, and Texas Associations in a hospitality room for delegates and their alternates, and it is sincerely hoped that some food products prevalent in and peculiar to each respective state will be furnished the members for their palatable enjoyment.

Make your reservations now and we will be looking forward to seeing you in Dallas.

IN MEMORIAM

A. D. TISDALE, M. D.
1893 - 1959

Whereas, the Almighty Lord has seen fit to remove from our midst Dr. A. D. Tisdale,

Whereas, Dr. Tisdale has for many years faithfully served the community as an outstanding physician and civic leader,

Whereas, Dr. Tisdale has been a faithful member of the Ouachita Parish Medical Society and the Louisiana State Medical Society for many years,

Be it hereby resolved that the Ouachita Parish Medical Society extend to Mr. A. D. Tisdale, Dr. A. D. Tisdale, Jr., and Mrs. Nunnally our sincere sympathy and condolences,

Be it firmly resolved that a copy of this resolution be spread on the minutes of the Ouachita Parish Medical Society and a copy forwarded to the State Medical Society and to the American Medical Association.

Respectfully submitted
John Burton, M. D.
Najeeb Klam, M. D.

RESOLUTION FOR THE SHREVEPORT MEDICAL SOCIETY

The Lord, in his infinite mercy, which passes our understanding, saw fit to take from our midst, on July 18th, one of our most valued associates, in the height of his career; therefore, we, tho members of The Shreveport Medical Society, greatly deplore the loss of Dr. Paul Dowling Abramson, a distinguished surgeon and investigator, a civilian who has done much for all worthy enterprises in this city and a moving spirit for all that is best for the cause of medicine and medical progress.

Dr. Abramson was twice president of our local Society and, in 1956-57, was president of our State Society; he was a Fellow of the American College of Surgeons. He was a member of the Surgical Association of Louisiana; and for twenty-nine years a member of the Louisiana State Medical Society. He was active in research for national organizations.

As a citizen, he took an active part in all that was for the city's interest. He was an enthusiastic member of Masonry, having served as Potentate of the local Shrine; he was active as a Rotarian and had been a member of the Board of Boy Scouts and Salvation Army; he served with distinction on the state and local Cancer Boards and other worthwhile projects, including the Little Theater, and all elevating causes for the good of us all.

His fellow members of The Shreveport Medical Society deeply deplore this loss, which is impossible to fill, and hereby tender our deepest sympathy to the bereaved family, request that a copy of this resolution be furnished to local press and State Medical Journal and that we rise for a minute in silent prayer for a valued member whom we have lost.

This Memorial Resolution is presented by Dr. A. A. Herold, Sr. at the request of the Memorial Commission.

W. R. Harwell, M. D.
Chairman

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

1960 PRIZE ESSAY CONTEST AMERICAN COLLEGE OF CHEST PHYSICIANS

The American College of Chest Physicians is offering three cash awards to winners of the 1960 Prize Essay Contest. First prize, $500.00; second prize, $300.00, and third prize, $200.00. Each winner will also receive a certificate.

The contest is open to **undergraduate** medical students throughout the world. Essays may be written on any phase of the diagnosis and treatment of chest diseases (cardiovascular or pulmonary). Contest closes on April 1, 1960.

For application and further information, write: American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

SPEECH TRAINING BEGINS ON FIRST DAY OF LIFE

A baby's desire to speak can be awakened as early as the fifth week of life, according to a New York speech expert.

Writing in the September Today's Health, published by the American Medical Association, Flora Rheta Schreiber said parents can and should get their child ready for good speech long before he speaks his first words.

They should begin on the first day of the baby's life, when the mother's arms, the softness of her voice, the aura she creates sets the stage for the child's future mental health and his successful speech and language development.

To learn to speak, a child must have an appreciative audience. If the mother responds to the sounds the baby makes, his desire to speak will be awakened in the first few weeks of life.

During the first months, the mother must give her child assurance through the tone of her voice. When she feeds him, she might say "dogs say bow-wow . . . " Or she can just coo. The words mean nothing, but the sound of the mother's voice means a great deal, Miss Schreiber said.

As the child begins to babble, parents should recognize this as a rehearsal for true speech and they should babble with him, the author said.

MENTAL HEALTH "CONTAGION" MAY HELP WORLD PEACE

Physicians may some day be able to prevent family and community turmoil, to strike at greed and prejudice, and even perhaps lay the foundation for world peace.

They may be able to do this because mental disease and mental health are just as "infectious" as a smile or the measles, according to an editorial in the Sept. 12 Journal of the American Medical Association.

Although mental illness is as old as mankind, only recently have many physicians begun to view it as a disease—involving susceptibility and resistance factors—which is amenable to control through a broad program of preventive medicine.

Mental illness is now the only major public health problem that is not adequately reported, the editorial said. It then urged increased study of the cause and spread of mental illness and health and of techniques for preventing illness. Mental illness and health may well be the "epidemiology of the future," the editorial noted.

An accompanying "Medicine at Work" article noted that the seeds of communicability are "implanted in person-to-person contact, fertilized in the family to grow throughout the community, blown and sown from nation to nation. Contact might communicate a fleeting thought or involve the transference of broad patterns of living."

The communicability of mental illness can range from that between a mother and child when the mother scolds and the child becomes anxious to that between nations which "breed dislike," the article said.

But health is also infectious, it said. "A child who is taught not to steal accepts this as a gen-

eral idea, and it develops into a feeling—not just an understanding—that creates an ironclad 'prejudice' against stealing."

To understand how all this works and how the phenomenon of communicability can be used to help man toward better mental health must be the cooperative goal of physicians, psychologists, sociologists, teachers, anthropologists, and clergymen, the Journal editorial concluded.

DOGS CATCH MUMPS FROM CHILDREN

When Johnny has the mumps, Fido better stay away. He may catch them too.

Two cases of mumps in dogs were reported in the September Journal of Diseases of Children, an American Medical Association publication.

The transmission of mumps in animals other than man or monkeys has previously been considered to be rather improbable and little has been reported on its appearance in other animals, the report said.

The dogs, pets of two different families, were a six-month-old dachshund and a three-month-old Boston terrier. They developed mumps after being in contact with family members who had the disease. The dogs were allowed upon the beds of patients during their illness and convalescence.

The dachshund died a few days after he became sick, but the terrier recovered within 14 days.

Standard laboratory tests revealed the presence of the mumps virus in the saliva of both dogs, who displayed the usual symptoms of mumps—swollen parotid glands and difficulty in swallowing.

The report was made by Frank Noice, Ph.D., F. M. Bolin, D.V.M., and D. F. Eveleth, Ph.D., D.V.M., of the department of veterinary science, North Dakota Agricultural College, Fargo.

MUSHROOM WORKERS DEVELOP "FARMER'S" LUNG

Commercial mushroom growing carries a peculiar hazard—at least for some of the workers, who develop a lung condition similar to "farmer's lung" and "silo-filler's disease."

Writing in the Sept. 5 Journal of the American Medcial Association, three West Chester, Pa., physicians reported 16 cases of the disease among migrant Puerto Rican mushroom workers.

The Puerto Ricans seem to be susceptible to some substance in the compost beds used in growing mushrooms which does not affect the workers of local origins, the doctors said.

Symptoms include cough; pain in the chest, stomach or muscles; difficulty in breathing; nausea and vomiting; headache; chill; rapid weight loss; loss of appetite, and tiredness. An attack lasts from four to 46 days, subsiding within one to six weeks after the patient is removed from exposure. No immunity appears to develop, since acute symptoms reappear with each exposure. The symptoms sometimes resemble those of tuberculosis.

The physicians are unsure of the cause of the condition, but it could be the inhalation of molds or organic dusts during the laying or cleaning of damp compost beds which contain moldy hay and silage. Such dusts are believed to cause farmer's lung.

However, the symptoms resemble those of silo-filler's disease, which is believed to be caused by the inhalation of certain gases, especially nitrogen dioxide, liberated in recently filled silos. It is possible that some of the gases which collect above the mushroom beds in poorly ventilated buildings contain nitrogen dioxide, the doctors said.

The symptoms of their patients could fit either farmer's lung or silo-filler's disease, the doctor's said, adding that after reviewing the medical literature, they cannot make any sharp differentiation between the two diseases.

The authors are Drs. Louis S. Bringhurst, Robert N. Byrne, and Jacob Gershon-Cohen of the Chester County Hospital, West Chester, Pa.

NEW TOOTH DECAY PREVENTIVE TECHNIQUE SUGGESTED

A slight change in table etiquette might be one way to fight tooth decay, a California dentist has suggested.

Tooth decay is not a steady degenerative process but rather a series of short "commando raids" lasting only 20 to 30 minutes and is generated by the fermentable sugars in food being eaten, according to Walter Drozdiak, D.D.S., San Jose.

If brushing or rinsing teeth is delayed longer than 30 minutes after eating, little or no preventive effect will occur and "one might just as well forget about it altogether, which is what most of us do," he said.

Therefore, Dr. Drozdiak suggests that the mouth be rinsed right at the table. The idea is to wash away as much as possible the elements that cause decay—the acids and sugars—before the process of decay can begin.

Taking a sip of water after the meal—or even at times during the meal—and swishing it around around in the mouth for a few seconds before swallowing need not attract attention and can be done without inconvenience, he said.

Writing in the September Today's Health, an American Medical Association publication, Dr. Drozdiak noted that forming such a habit may take some effort, but it is well worth it. The teeth are the only part of the body which cannot heal or repair themselves after damage has been done.

In addition, decay does not ever start from within. It always begins on the outside of the teeth and arises from decay-causing conditions surrounding the teeth.

Teeth should be brushed after every meal and the brushing should do more than just remove loose debris and stains from the teeth. It should ideally remove from the teeth all adhering deposits of bacteria and tartar, and it should dislodge foreign matter trapped between the teeth and gums.

Dr. Drozdiak recommends that teeth—like pots and pans—should be checked after cleaning to see that they are really clean.

BOOK REVIEWS

New Research Techniques of Neuroanatomy; edited by William F. Windle, Ph.D., Sc.D. Springfield, Illinois, Charles C Thomas, 1957. pp. 98, 25 illus. Price $4.75.

A recent symposium, sponsored by the National Multiple Sclerosis Society now appears in print. The Introduction (William F. Windle) states: "It is hoped that the discussions will help alert workers to the possibilities of the newer procedures and thus promote the advance of research in neurological sciences." The symposium is timely, because of the widespread and intensive field that it covers. The hope expressed in the Introduction surely will be realized.

The book carries the contributions of eight authoritative investigators who have spoken at the symposium on the particular methods with which they are most familiar. Their topics are varied: electron microscopy (Sanford L. Palay), silver impregnation of degenerating axons (Walle J. H. Nauta), selective silver impregnation of synaptic endings (Grant L. Rasmussen), tissue culture (Margaret R. Murray), local blood flow in neural tissues (Louis Sokoloff), histochemical localization of acetylcholinesterase (George B. Koelle), and quantitative histochemistry (Wayne Albers).

The critical summary that forms the last chapter of the volume (Edward W. Dempsey) is aptly entitled "New Methods Versus Old." Its keynote combines recognition of the current yield and great promise of these newer methods with a warning that the results obtained by them must be constantly viewed in the light of observations made with the classical methods.

HAROLD CUMMINS, PH.D.

Noise and Your Ear; by Aram Glorig, Jr., New York, N. Y., Grune & Stratton, 1958, pp. 152, Price $6.50.

This monograph of 150 pages is concerned primarily with the many problems of the effects of noise exposure on hearing. Initially, it contains a brief but clear presentation of psychoacoustics, physiology of the ear and clinical audiometry. An excellent glossary of audiological and medicolegal terms unique to this problem is presented. Finally, a thorough discussion of the causes, effects and possible means of prevention of industrial hearing loss is provided by the author.

This book should be very helpful to otologists and industrial physicians.

L. J. RUTLEDGE, M. D.

PUBLICATIONS RECEIVED

Appleton-Century-Crofts, Inc., N. Y.: The Physician and the Law, by Rowland H. Long, foreword by Milton Helpern, M. D. (2nd edit.).

Doubleday & Co., Inc., N. Y.: The Cigarette Habit: A Scientific Cure, by Arthur King.

Landsberger Medical Books, Inc., N. Y.: The Acute Medical Syndromes and Emergencies: Diagnosis and Treatment, by Albert S. Hyman, M. D.; The Emergency Syndromes in Pediatric Practice, by Alfred J. Vignec, M. D.

Lange Medical Publications, Los Altos, Calif.: Handbook of Poisoning: Diagnosis and Treatment, by Robert H. Dreisbach, M. D. (2nd edit.).

The C. V. Mosby Co., St. Louis: Synopsis of Gynecology, by Robert J. Crossen, M. D., Daniel W. Beacham, M. D., and Woodard D. Beacham, M. D. (5th edit.); Symposium on Glaucoma, edited by William B. Clark, M.D., (Transactions of New Orleans Academy of Ophthalmology, 1957).

Philosophical Library, N. Y.: Jewish Medical Ethics: A Comparative and Historical Study of the Jewish Religious Attitude to Medicine and Its Practice, by Rabbi Dr. Immanuel Jakobovits.

Prentice-Hall, Inc., Englewood Cliffs, N. J.: Living Beyond Your Heart Attack, by Eugene B. Mozes, M. D.; Master Your Tensions and Enjoy Living Again, by George Stevenson, M. D., and Harry Milt.

W. B. Saunders Co., Phila.: Biopsy Manual, by James D. Hardy, M. D., James C. Griffin, Jr., M. D., and Jorge A. Rodriguez, M. D.; Metabolic Care of the Surgical Patient, by Francis D. Moore, M. D.

Charles C Thomas, Publisher, Springfield, Ill.: The Surgical Treatment of Scoliosis, by Louis A. Goldstein, M. D.; Lectures on the Interpretation of Pain in Orthopedic Practice, by Arthur Steindler, M. D., with Anatomical Dissections, by Dr. Rodolfo Cosentino.



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(*Excerpted from J.A.M.A., Aug. 29, 1959*)



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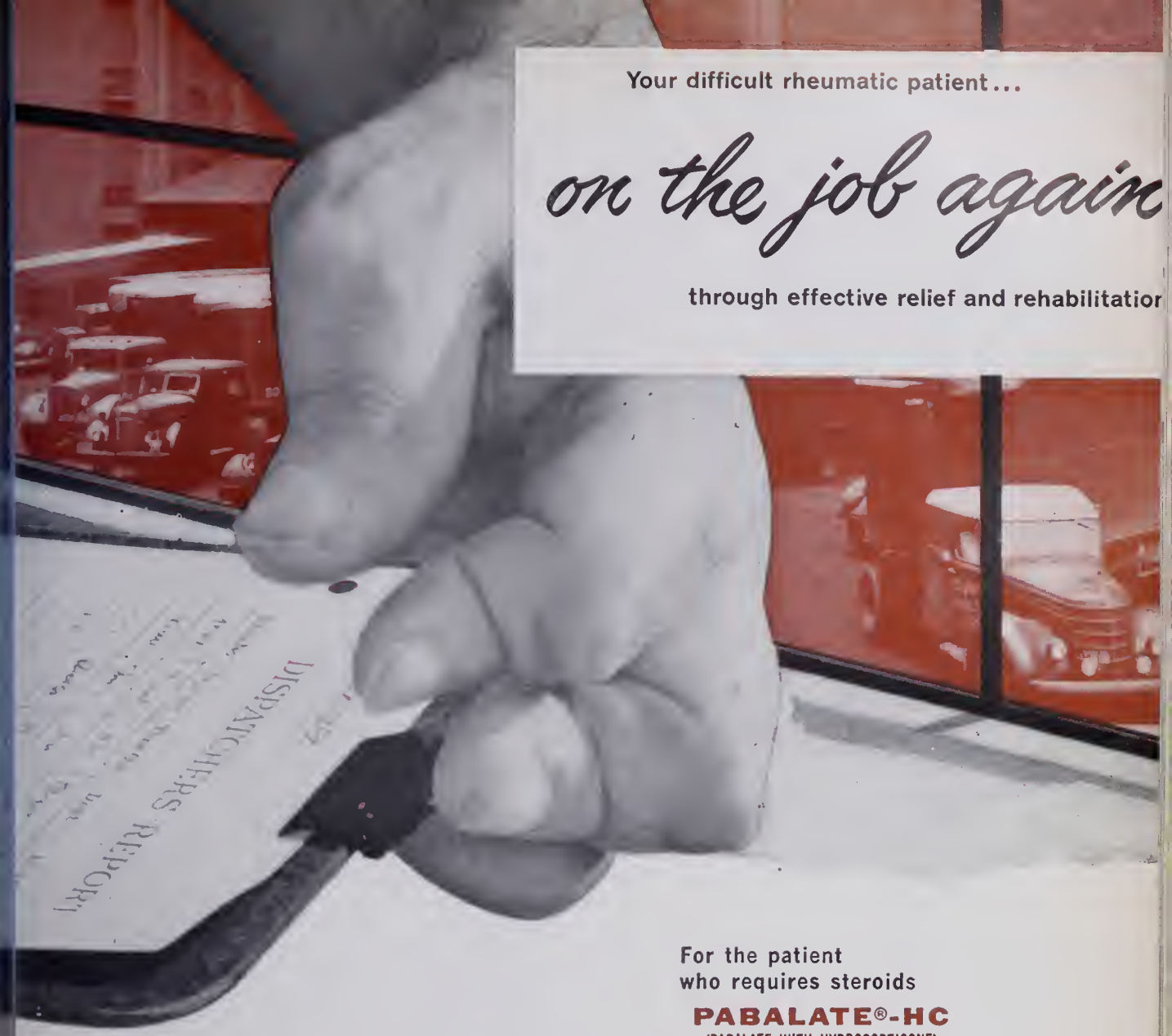
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1. Innerfield, I.: Clinical report cited with permission
2. Clinical report cited with permission

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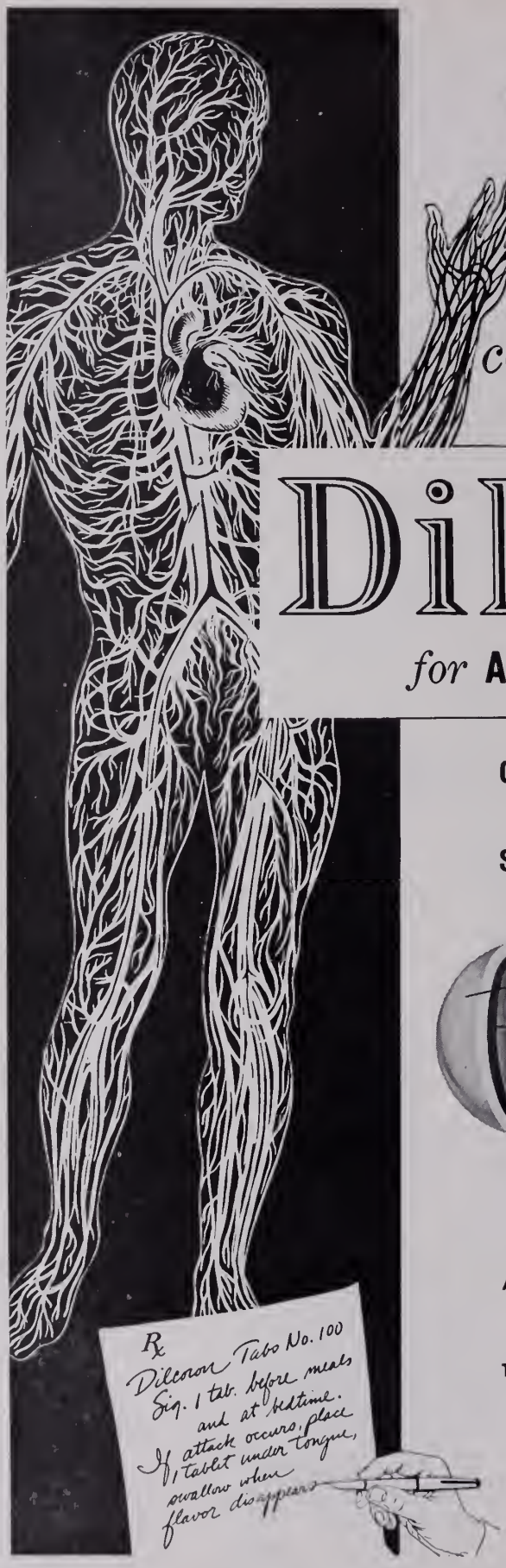


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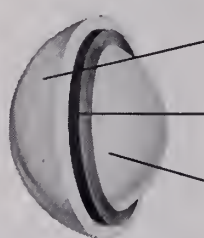
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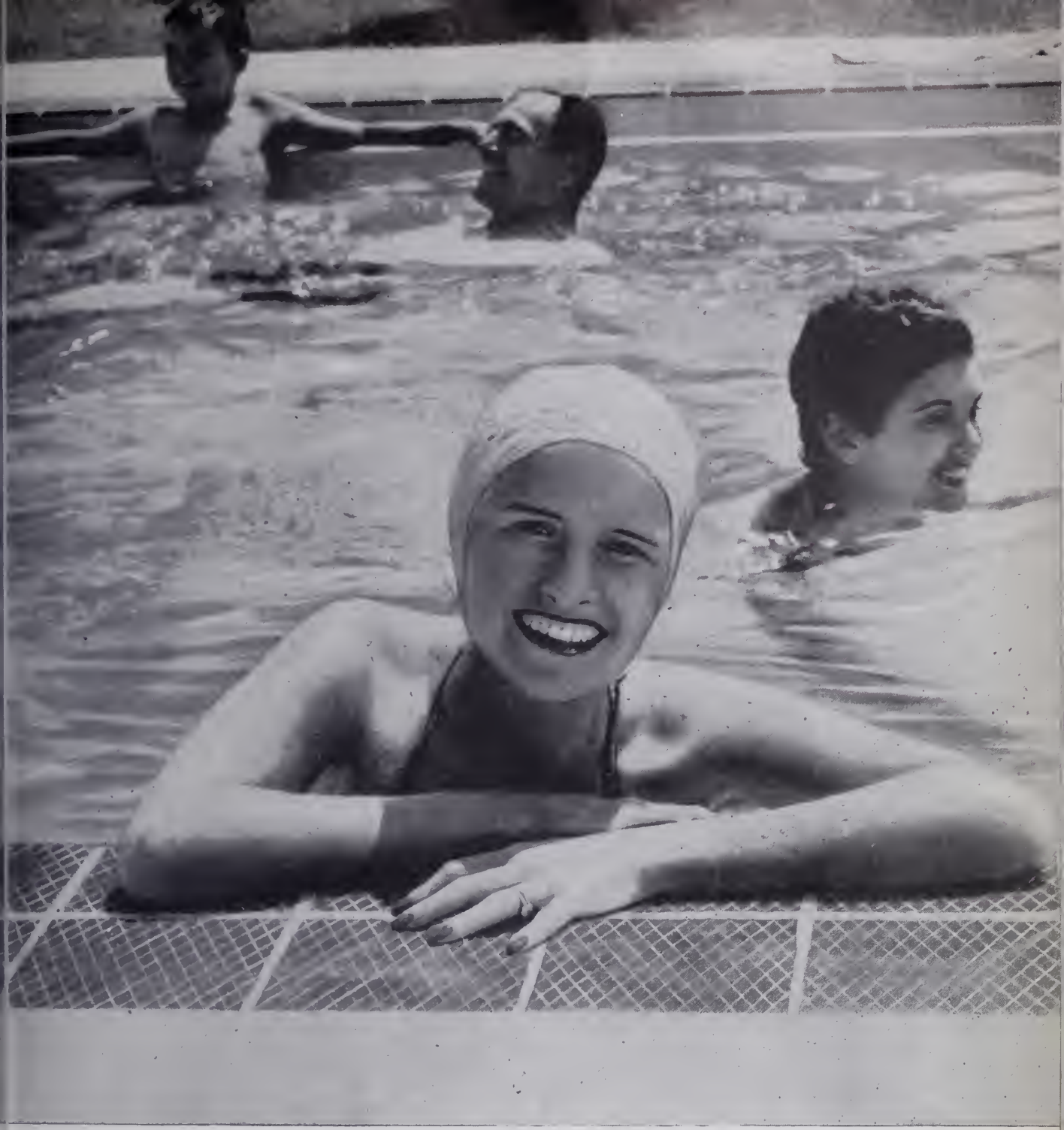


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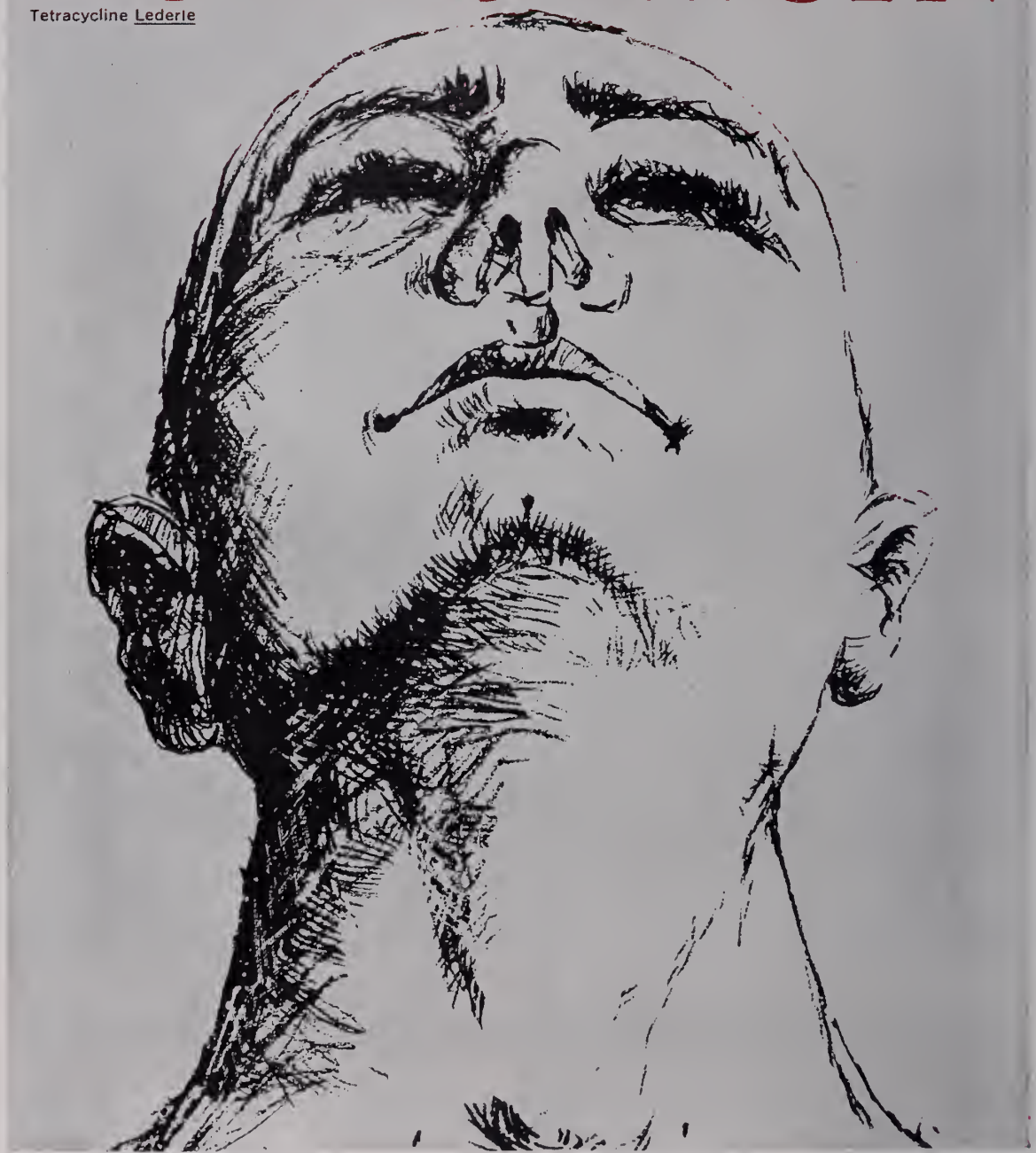
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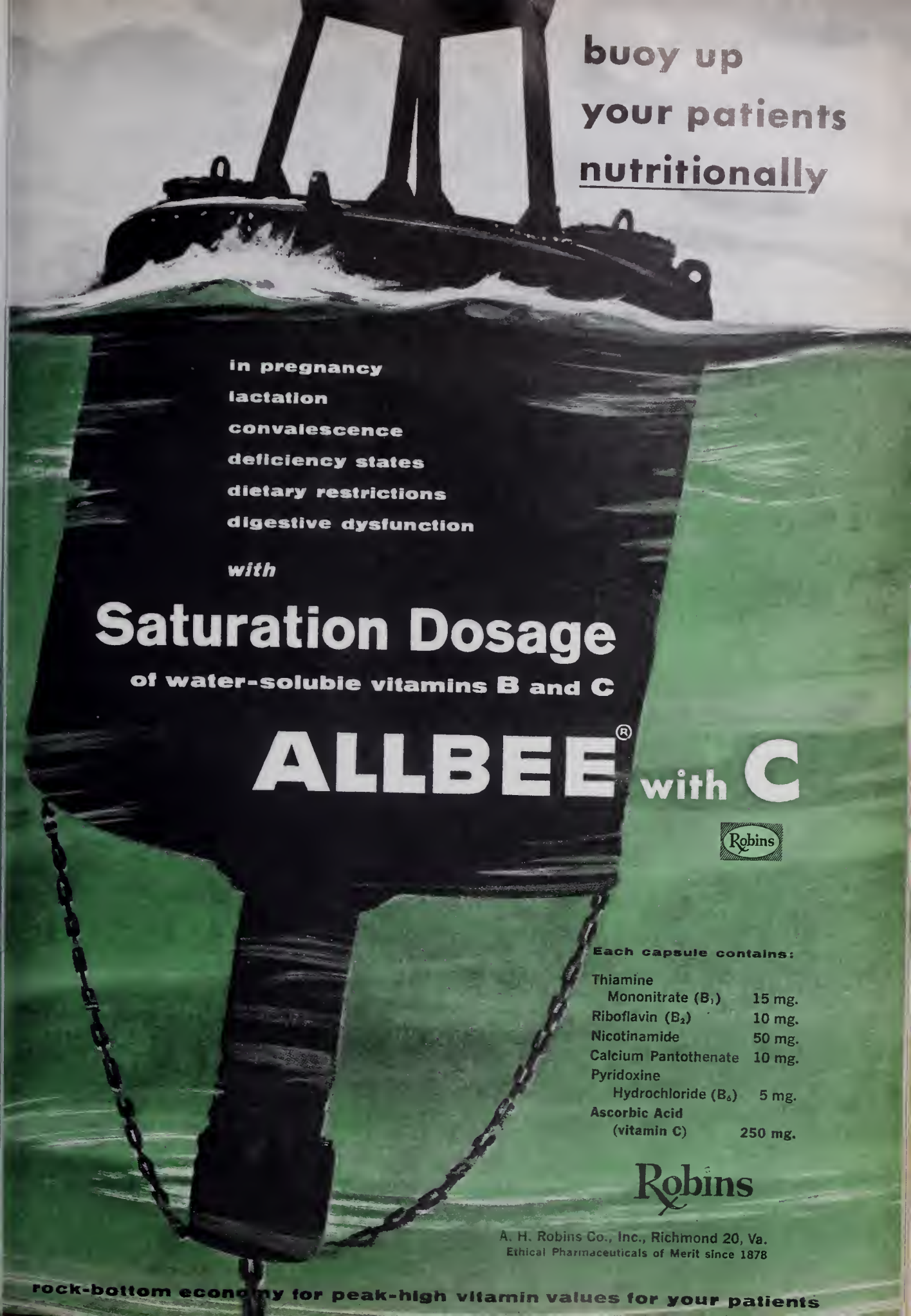
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RESEARCH:

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Though this filter satisfied everyone on its ability to reduce tars and nicotine to the lowest level among the largest selling brands, there was still work to be done in the areas of taste and draw. After additional months of research, a new tobacco blend was developed which delivered rich taste *after* the smoke had passed through the filter. Next in the series of laboratory triumphs was a method of improving the draw to compare with the most free-drawing of all filter brands.



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capsules—14 VITAMINS AND 11 MINERALS

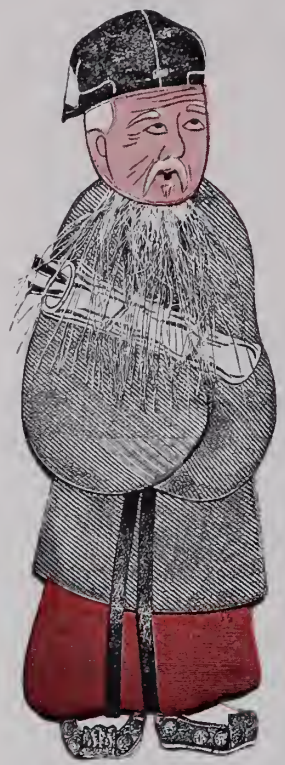
Vitamin-Mineral Supplement Lederle

For Complete Formula see PDR (Physicians' Desk Reference), page 689

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

Lederle

immortals of chinese mythology:



Chang Kuo-lao

This itinerant sage impressed the court of the Emperor by growing a new set of teeth

...this potent corticosteroid has impressed the medical profession with its repeated success in countless steroid-responsive indications

METICORTEN

METICORTEN,® brand of prednisone, 5 mg. tablets.

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You will soon receive in your mail a full-color, handmade, three-dimensional figure of this Chinese Immortal, mounted and suitable for framing.

5-320

Schering



JUST ONE TABLET DAILY

provides therapeutic levels . . . for 24 hours . . .
with low incidence of sensitivity reactions . . .
WHENEVER SULFAS ARE INDICATED

KYNEX®

Sulfamethoxypyridazine Lederle
0.5 Gm. TABLETS/NEW ACETYL PEDIATRIC SUSPENSION
LEDERLE LABORATORIES, a Division of
AMERICAN CYANAMID COMPANY, Pearl River, New York

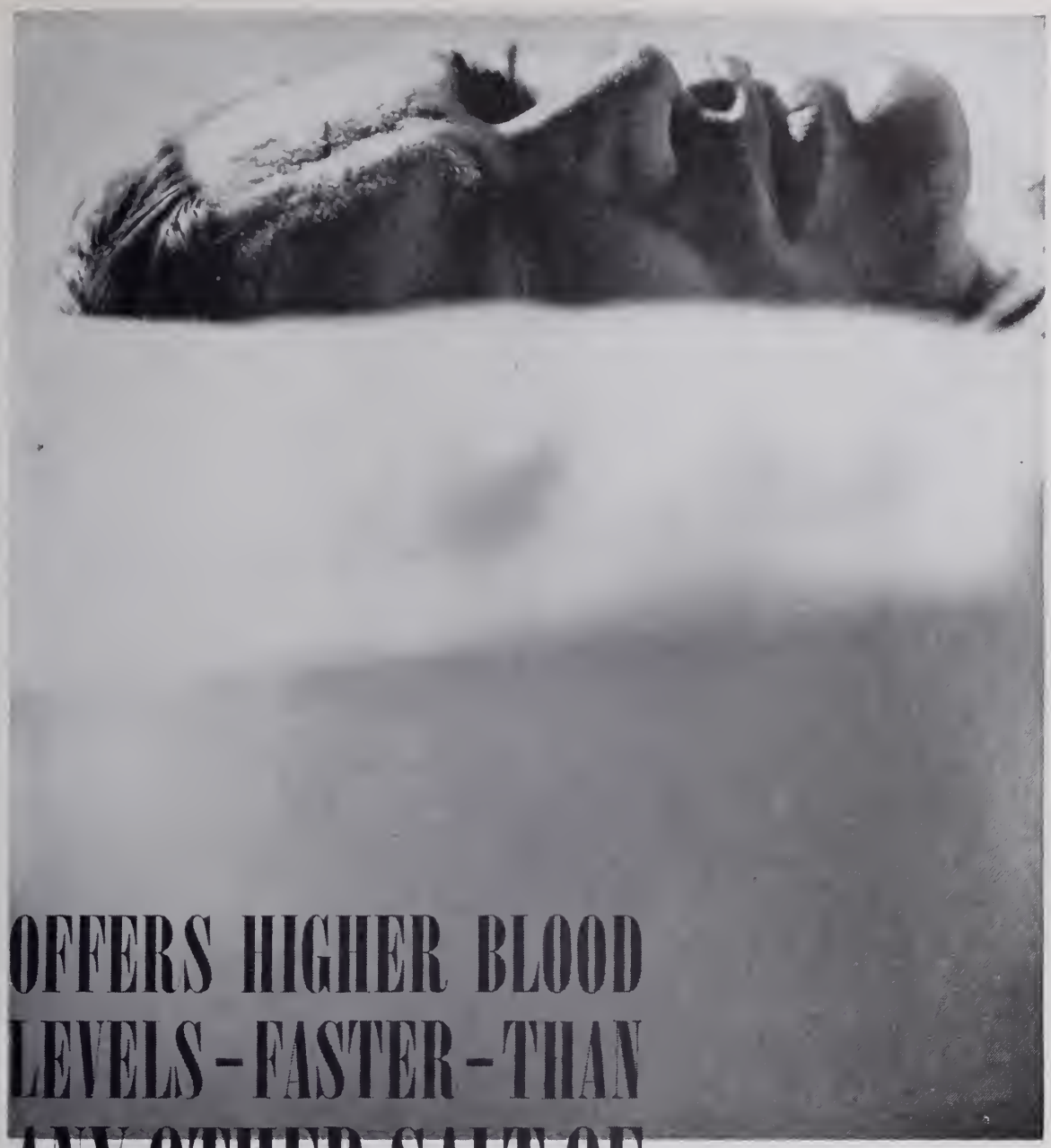
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Potassium Penicillin V

® FILMTAB — FILM-SEALED TABLETS ABBOTT U.S. PAT. NO. 2881085

in tiny, easy-to-swallow Filmtabs® in tasty, cherry-flavored Oral Solution

Supplied: Compocillin-VK Filmtabs, 125 mg. (200,000 units), bottles of 50 and 100; 250 mg. (400,000 units), bottles of 25 and 100. Compocillin-VK Granules for Oral Solution come in 40-cc. and 80-cc. bottles. When reconstituted, each 5-cc. teaspoonful represents 125 mg. (200,000 units) of potassium penicillin V.

ABBOTT



What a great feeling to see *all* the pins go down . . .

"Good for you!"

A STRIKE! You did it—your side wins the game. Now, "Champ," relax—reach for a rewarding glass of beer. More than a thirst-quencher, beer is the light, bright beverage just bubbling with life. A glass of beer adds so much fun to so many occasions. And it really picks you up, too!

Beer Belongs—to the fun of living!

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CHARTERED 1862



Beer's rich in wonderful, healthful things. Nature's own choice barley malt, hops, minerals, and the purest water. Good wholesome beer or ale perks you up—won't let you down.

NEW ONE-DOSE TREATMENT FOR PINWORMS

Povan*

SUSPENSION

(PYRVINIUM PAMOATE SUSPENSION, PARKE-DAVIS)

A new agent, POVAN SUSPENSION is singularly effective against pinworms...greatly improves and simplifies therapy.

- single-dose effectiveness in pinworm infections[1]
- pleasant-tasting and well tolerated
- easy to administer and economical
- practical against the spread of oxyuriasis...a single dose to each member of a household or institution where pinworms are present[1]

Administration and Dosage

POVAN SUSPENSION is administered orally in a single dose. In small children, the dose is equivalent to 5 mg. pyrvinium base per Kg. of body weight.

For convenience, a 5-cc. teaspoonful per 22 pounds (10 Kg.) of body weight may be recommended. For example, a 54-pound child would receive somewhat less than 3 teaspoonfuls of the Suspension.

Adults also may be given POVAN SUSPENSION according to the same dosage schedule.

Note: Parents and patients should be informed that POVAN SUSPENSION will color the stools a bright red and that, if spilled, will stain.

Supplied: POVAN SUSPENSION is available as a pleasant-tasting, strawberry-flavored suspension containing the equivalent of 10 mg. pyrvinium base per cc., in 2-oz. bottles.

(1) Beck, J. W.; Saavedra, D.; Antell, G. J., & Tejeiro, B.: **Am. J. Trop. Med.** 8:349, 1959.

TRADE-MARK



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relieve the tension—and control its G.I. sequelae



...Pathibamate®

meprobamate with PATHILON® tridihexethyl chloride Lederle

for relieving tension and curbing hypermotility and excessive secretion in G. I. disorders

PATHIBAMATE combines two highly effective and well-tolerated therapeutic agents:

meprobamate (400 mg. or 200 mg.)—a tranquilizer and muscle-relaxant widely accepted for the effective management of tension and anxiety

PATHILON (25 mg.)—an anticholinergic long noted for producing prompt symptomatic relief through peripheral, atropine-like action, yet with few side effects

now available...

PATHIBAMATE-200 Tablets

200 mg. meprobamate • 25 mg. PATHILON

for more flexible control of G. I. trauma and tension smooth, sugar-coated, easy-to-swallow

PATHIBAMATE-400 and PATHIBAMATE-200 are indicated for duodenal ulcer; gastric ulcer; intestinal colic; spastic and irritable colon; ileitis; esophageal spasm; anxiety neurosis with gastrointestinal symptoms and gastric hypermotility.

Supplied: PATHIBAMATE-400—Each tablet (yellow, 1/2-scored) contains meprobamate, 400 mg.; PATHILON tridihexethyl chloride 25 mg.

PATHIBAMATE-200—Each tablet (yellow, coated) contains meprobamate, 200 mg.; PATHILON tridihexethyl chloride, 25 mg.

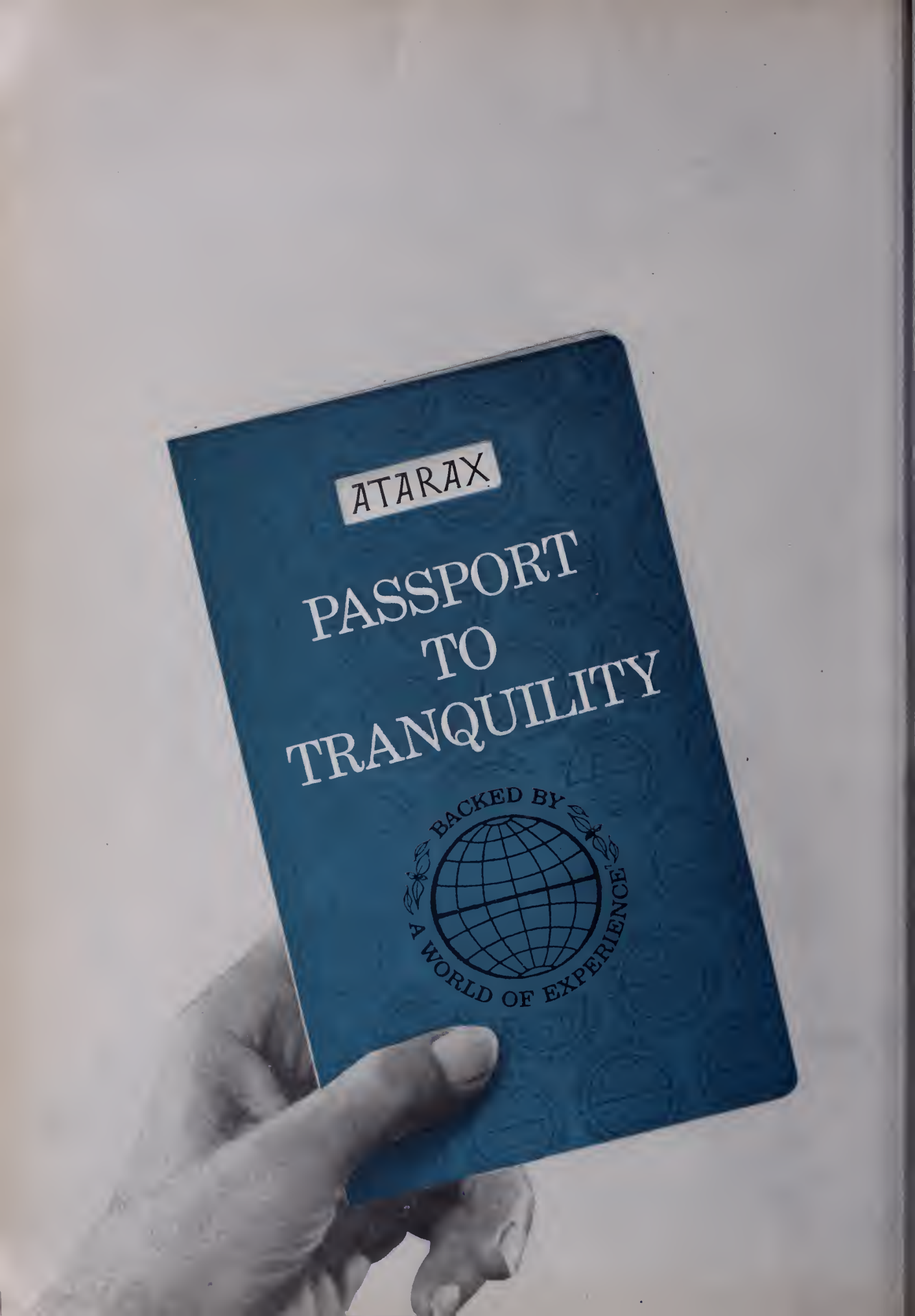
Administration and Dosage: PATHIBAMATE-400—1 tablet three times a day at mealtime and 2 tablets at bedtime.

PATHIBAMATE-200—1 or 2 tablets three times a day at mealtime and 2 tablets at bedtime.

Adjust dosage to patient response.

Contraindications: glaucoma; pyloric obstruction, and obstruction of the urinary bladder neck.

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ATARAX
PASSPORT
TO
TRANQUILITY
BACKED BY
A WORLD OF EXPERIENCE

Passport

☞ a universal record of effectiveness

In anxiety, tension and agitation, ATARAX "... produced a more favorable state of calm and tranquility than any drug previously used."[1]

☞ widest latitude of safety and flexibility

No serious adverse reaction ever documented – five dosage forms and sizes

☞ chemically distinct among tranquilizers

Not a phenothiazine or a meprobamate

☞ added frontiers of usefulness

These unique benefits in specific indications

ANTIHISTAMINIC
ANTIARRHYTHMIC
ANTISECRETORY

BACKED BY A WORLD OF EXPERIENCE

Dosage: ADULTS, one 25 mg. tablet, or one tbsp. Syrup q.i.d. CHILDREN – 3-6 years, one 10 mg. tablet or one tsp. Syrup t.i.d.; over 6 years, two 10 mg. tablets or two tsp. Syrup t.i.d.

Supplied: Tiny 10 mg., 25 mg., and 100 mg. tablets, bottles of 100. Syrup, pint bottles. Parenteral Solution, 10 cc. multiple-dose vials.

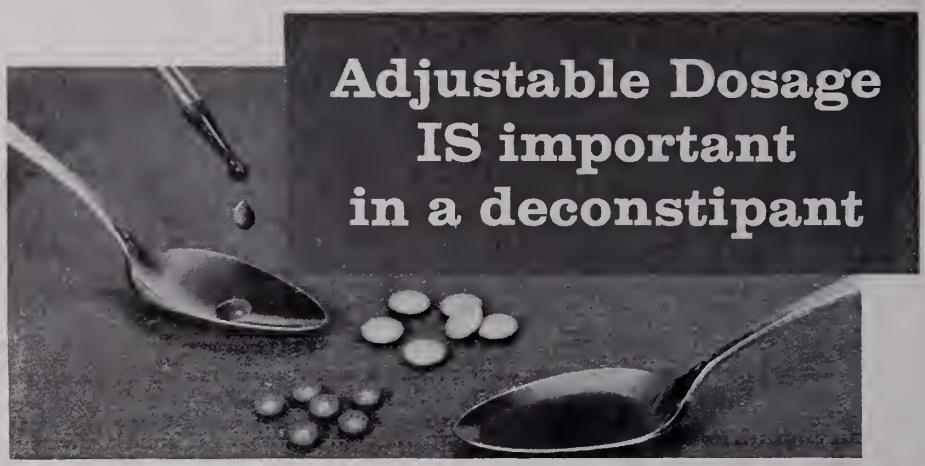
References: 1. Farah, L.: Internat. Rec. Med. *169*:379 (June) 1956. 2. Smigel, J. O., et al.: J. Am. Geriatrics Soc. *7*:61 (Jan.) 1959. 3. Feinberg, A. R., et al.: J. Allergy *29*:358 (July) 1958. 4. Eisenberg, B. C.: J.A.M.A. *169*:14 (Jan. 3) 1959. 5. Maryssael, L.: Bruxelles-méd. *38*:111 (Jan. 26) 1958. 6. Pfleger, R.: Med. Klin. *53*:1030 (June 5) 1958. 7. Over 200 laboratory and clinical papers from 14 countries.

ATARAX®

(brand of hydroxyzine)

PASSPORT TO TRANQUILITY

New York 17, N. Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being



that's why **MODANE** offers you a dosage form for every patient

TABLETS REGULAR (yellow) *For your average adult patient.*



Each tablet contains 75 mg. danthron, 25 mg. calcium pantothenate. Dose — 1 tablet immediately after the evening meal.

TABLETS MILD (pink) *for hypersensitives and children (6 to 12 yrs).*



Each tablet contains 37.5 mg. danthron, 12.5 mg. calcium pantothenate. Dose — 1 tablet to be taken immediately after the evening meal.

LIQUID . . . *for geriatric, pediatric, and "liquid only" patients.*



Each teaspoonful contains 37.5 mg. danthron and 12.5 mg. calcium pantothenate. Dose — 1 teaspoonful or fraction thereof, according to age and condition, immediately after the evening meal.

MODANE'S danthron (1, 8-dihydroxyanthraquinone) in individualized dosages assures safe, gentle overnight relief — without irritation or griping — acts systemically on the large intestine.

MODANE'S calcium pantothenate offers neurohumoral aid to rehabilitation of the bowel which, from distention and overwork, has become flaccid and atonic.

THE WARREN-TEED PRODUCTS COMPANY
COLUMBUS 8, OHIO

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to prevent
the sequelae
of u.r.i. ...
and relieve the
symptom complex

ACHROCIDIN®

Tetracycline-Antihistamine-Analgesic Compound Lederle

Sinusitis, otitis, tonsillitis, adenitis, bronchitis or pneumonitis develops as a serious bacterial complication in about one in eight cases of acute upper respiratory infection.(1) To protect and relieve the "cold" patient... ACHROCIDIN.

Usual dosage: 2 tablets or teaspoonfuls q.i.d. (equiv. 1 Gm. tetracycline). Each TABLET contains: ACHROMYCIN® Tetracycline HCl (125 mg.); phenacetin (120 mg.); caffeine (30 mg.); salicylamide (150 mg.); chlorothen citrate (25 mg.). Also as SYRUP, caffeine-free.

(1) Estimate based on epidemiologic study by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122, Jan. 1933.

Lederle LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

NIAMID*

reduces pain in angina pectoris

NIAMID, in intensive clinical tests, has proved to have a high degree of safety and to be a valuable adjunct in the management of the anginal syndrome. NIAMID produces striking symptomatic improvement in angina patients...

- **reduces frequency of anginal episodes**
- **diminishes severity of attacks**
- **decreases nitroglycerin requirements**
- **renews sense of well-being**

Note: Because of dramatic relief of symptoms and increased sense of well-being in anginal cases, it is advisable to caution the patient against overexertion.

DOSAGE: Start with 75 mg. of NIAMID daily in single or divided doses. After 2 weeks or more, adjust the dosage, depending upon patient response, in steps of one or one-half 25 mg. tablet. Once improvement is seen, gradually reduce dosage to the maintenance level. Many patients respond to NIAMID within a few days, others within 7 to 14 days. NIAMID is available as 25 mg. (pink) and 100 mg. (orange) scored tablets.

A Professional Information Booklet giving detailed information on NIAMID *is available on request from the Medical Department, Pfizer Laboratories, Division, Chas. Pfizer & Co., Inc., Brooklyn 6, N. Y.*

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Pfizer *Science for the world's well-being™*







1¼ Grs. Ea.
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Living up to a family tradition

There are probably certain medications which are special favorites of yours, medications in which you have a particular confidence.

Physicians, through ever increasing recommendation, have long demonstrated their confidence in the efficacy, potency and purity of Bayer Aspirin, the world's first aspirin.

And the same manufacturing skill, the same 106 ingredient and product tests, the same exclusive processes which contribute to the superiority of Bayer Aspirin set the standards of excellence for Bayer Aspirin for Children.

You can depend on Bayer Aspirin for Children for it has been conscientiously formulated to be the best tasting aspirin ever made and to live up to the Bayer family tradition of providing the finest aspirin the world has ever known.

Bayer Aspirin for Children—1¼ grain flavored tablets—Supplied in bottles of 50.

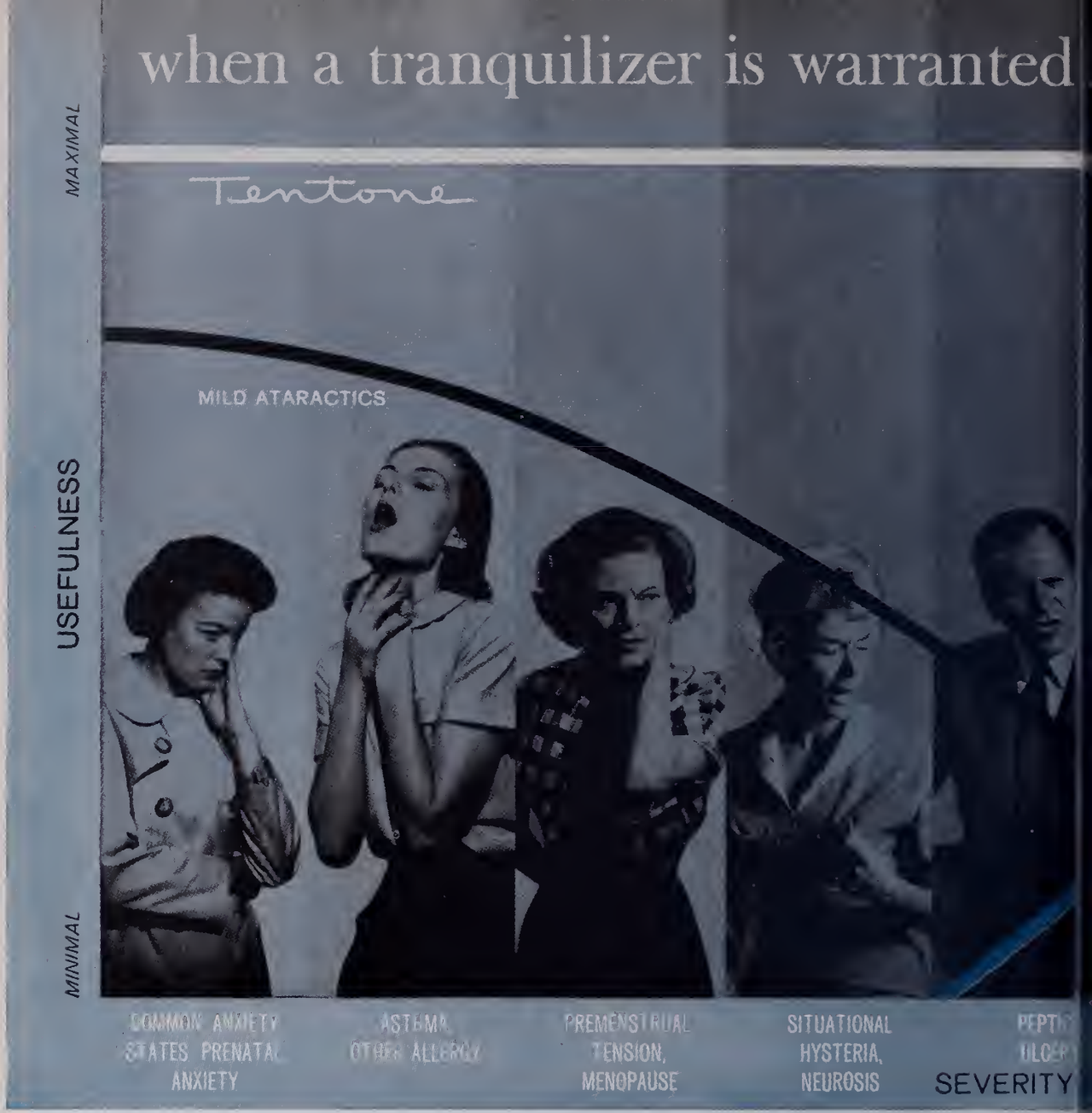
● We welcome your requests for samples on Bayer Aspirin and Flavored Bayer Aspirin for Children.

New Tamper-Proof Cap



THE BAYER COMPANY, DIVISION OF STERLING DRUG INC., 1450 BROADWAY, NEW YORK 18, N. Y.

when a tranquilizer is warranted



The extended usefulness of TENTONE is readily apparent

TENTONE® Methoxypromazine Maleate is a new, distinctive phenothiazine...highly active ...for general use in mild and moderate emotional and psychosomatic disorders.

TENTONE elicits a striking, positive calming response[1,2]...with marked reduction o psychic disorientation, and low risk of blood, liver or other organic toxicity and intolerance.[1-

TENTONE parallels the weaker ataractics in low incidence of side effects. Freedom fron induced depression is apparently even greater.[5]

TENTONE provides a broadly adaptable dosage range (30 to 500 mg. daily) to permi maximum control in cases of varying severity.

TENTONE is also indicated to relieve emotional stress in surgical, obstetric and othe hospitalized patients.



osage: Mild to moderate cases—average starting dose, one 10 mg. or one 25 mg. tablet ree or four times daily. *Moderate to severe*—average starting dose, one 50 mg. tablet ur times daily. *Supplied:* 10 mg., 25 mg., and 50 mg. tablets.

Bodi, T., and Levy, H.: Clinical report, cited with permission. 2. Wetzler, R. A., and Phillips, R. M.: Clinical ort, cited with permission. 3. Prigot, A.: Clinical report, cited with permission. 4. Gosline, E., *et al.*: *Am. J. Psychiat.* :939 (April) 1959. 5. Turvey, S. E. C.: Clinical report, cited with permission.

Tentone

hoxypromazine Maleate

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WHENEVER COUGH THERAPY IS INDICATED

Hycomine®
SYRUP

THE *complete* Rx FOR COUGH CONTROL

cough sedative / antihistamine / expectorant

- relieves cough and associated symptoms in 15-20 minutes
- effective for 6 hours or longer
- promotes expectoration
- rarely constipates
- agreeably cherry-flavored

Each teaspoonful (5 cc.) of HYCOMINE contains:

Hycodan®	
Dihydrocodeinone Bitartrate . 5 mg. (Warning: May be habit-forming)	6.5 mg.
Homatropine Methylbromide 1.5 mg.	
Pyrilamine Maleate	12.5 mg.
Ammonium Chloride	60 mg.
Sodium Citrate	85 mg.

Endo®

Literature on request

Supplied: As a pleasant-to-take syrup. May be habit-forming. Federal law permits oral prescription.

ENDO LABORATORIES Richmond Hill 18, New York

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MAINSTAY

OF RHEUMATOID ARTHRITIS THERAPY

Plaquenil®

SULFATE

rand of hydroxychloroquine sulfate



Jew Long Term Chemotherapy
f **RHEUMATOID ARTHRITIS**

Whatever else may be needed from time to time
n the management of individual cases, these drugs
Plaquenil and Aralen] should always be given
prolonged trial (at least six months) as the
ainstay' of therapy."

Bagnall, A. W. (Univ. British Columbia, Vancourer, B.C.): A.M.A. Clinical Meeting (Scientific Section, Exhibit No. 124), Minneapolis, Minnesota, Dec. 2-5, 1958.

The 4-aminoquinoline drugs (Plaquenil and
ralen) together with supplemental agents ad-
inistered in nontoxic doses effectively maintained
ppression of the disease in 83 per cent of 194
atients followed for 18 months."

Scherbel, A. L.; Harrison, J. W., and Atdjian, Martin: Cleveland Clin. Quart. *25:95, April, 1958.*

When used in tolerated dosage and over a suf-
ient period of time, there appears to be a tre-
endous therapeutic potential in the antimalarial
ugs. . . . Plaquenil in this study did not have as
any side effects as Aralen and thus appears to
a more practical compound."

Cramer, Quentin (Kansas City): Missouri Med. *55:1203, Nov., 1958.*

enil (brand of hydroxychloroquine) and Aralen
d of chloroquine), trademarks reg. U.S. Pat. Off.

Plaquenil is the hydroxy derivative of Aralen® and is available as Plaquenil sulfate in tablets of 200 mg. (bottles of 100).

Average Dosage:

INITIAL—400 to 600 mg. (1 tablet 2 or 3 times daily)

MAINTENANCE—200 to 400 mg. (1 tablet once or twice daily)

Write for Plaquenil booklet discussing clinical experience, dosage, tolerance, precautions, etc., in detail.

Winthrop LABORATORIES • New York 18, N. Y.

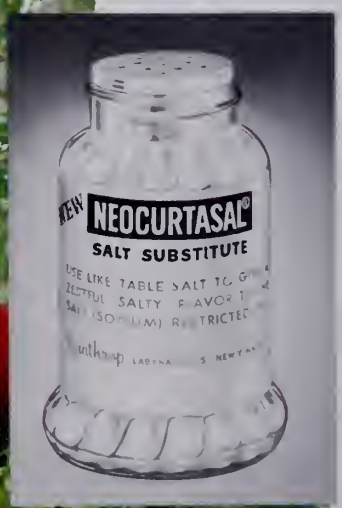
NO SALT... *but seasoned*

A meal of even the most colorful and the most meticulously prepared food can be dreary without salt. Neocurtasal, for the patient on a low sodium diet, brings back flavor to food and makes eating a pleasure once more. Neocurtasal is also valuable for preventing potassium deficiency (weakness, etc.) in patients on diuretic therapy with chlorothiazide or its derivatives.

Neocurtasal®

An excellent salt replacement for

Salt Free (LOW SODIUM) *Diet*



Neocurtasal contains potassium chloride, potassium glutamate, glutamic acid, calcium silicate and potassium iodide (0.01 per cent)

Supplied in 2 oz. shakers and 8 oz. bottles.

Sold Only through Druggists

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Winthrop LABORATORIES



the disease of many masks

Doctor, do you recognize this patient? She complains of flatulence, constipation with alternating periods of diarrhea, and colicky pains in the lower right quadrant. At other times she is troubled by anorexia, lassitude, dull headache, muscle pains and backache. Or she may have only one or two of these symptoms.

In these puzzling cases, serious consideration should be given to intestinal amebiasis—the disease of many masks. Clinicians say it is "one of the most widespread and serious protozoan diseases of man," yet "there is no parasite more often misdiagnosed than is *E. histolytica*." Conservative estimates place the incidence at 10% of the United States population as a whole, and 16% in southern states.

Now Glarubin, a relatively non-toxic amebicide, simplifies the treatment of suspected cases of intestinal amebiasis. Glarubin, a crystalline glycoside from the fruit of *Simarouba glauca*, is a specific amebicidal agent with minimal side effects. It contains no arsenic, bismuth or iodine.

Glarubin is administered orally in tablet form and does not require strict medical supervision or hospitalization. Extensive clinical trials prove it highly effective in intestinal amebiasis, and virtually free of toxicity.

Supplied in bottles of 40 tablets, each tablet containing 50 mg. of glaucarubin. Write for descriptive literature, bibliography, and dosage schedules.

new Glarubin

TABLETS

specific for intestinal amebiasis

THE S. E. MASSENGILL COMPANY

BRISTOL, TENNESSEE

NEW YORK • KANSAS CITY • SAN FRANCISCO

ANNUAL CLINICAL CONFERENCE

CHICAGO MEDICAL SOCIETY

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Panels on Timely Topics — **Teaching Demonstrations**

Medical Color Telecasts — **Instructional Courses**

Scientific Exhibits worthy of real study and helpful and time-saving Technical Exhibits

The Chicago Medical Society Annual Clinical Conference should be a MUST on the calendar of every physician. Plan now to attend and make your reservation at the Palmer House.

The leading site of cancer today is the colon and rectum. In 1958, 58,000 new cases were diagnosed.

The present 5-year survival rate for these cancers is less than 30%. This figure could be greatly increased by closing the very wide gap between *actual* and *possible* survival rates.

Earlier diagnosis is an immediate requirement. This can be accomplished by annual health checkups for all adults, and employment of digital, proctoscopic and appropriate x-ray examinations of the rectum and colon by physicians.

AMERICAN CANCER SOCIETY



provides therapeutic levels . . . for 24 hours . . .
with low incidence of sensitivity reactions . . .

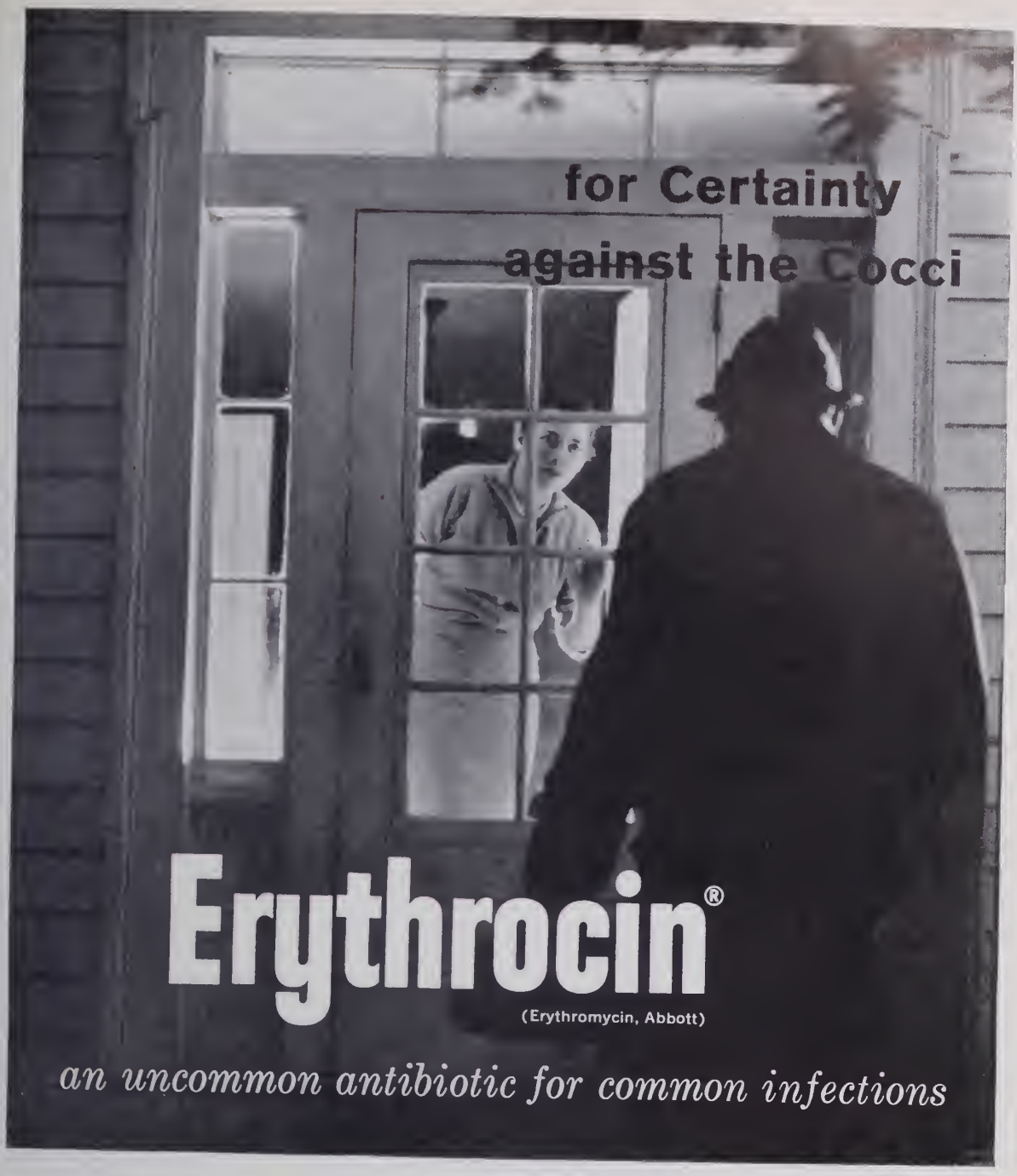
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KYNEX®

Sulfamethoxypyridazine Lederle

0.5 Gm. TABLETS/NEW ACETYL PEDIATRIC SUSPENSION

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York



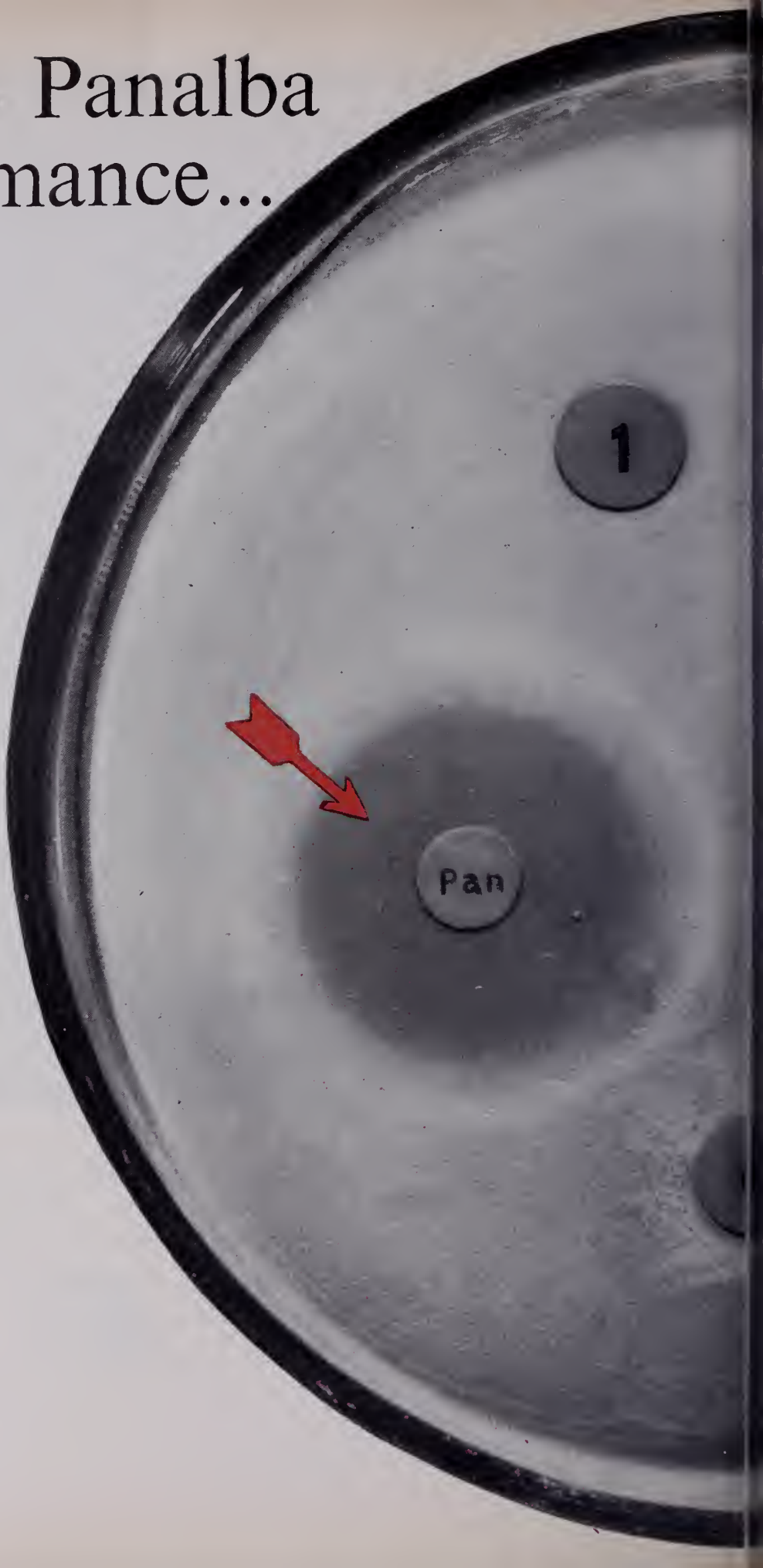
Provides fast, high blood and tissue concentrations—plus an unparalleled safety record. Erythrocin is available in easy-to-swallow Filmtabs® (100 and 250 mg.); in tasty, citrus-flavored Oral Suspension (200 mg. per 5-cc. teaspoonful); and for intravenous and intramuscular use.

ABBOTT

®FILMTABS—FILM-SEALED TABLETS. ABBOTT. U.S. PAT. NO. 2,881,085

909132

This is Panalba performance...





in pneumonia

. . . into a mixed culture of the three organisms commonly involved in pneumonia . . . *K. pneumoniae*, *Diplococcus pneumoniae*, and *Staphylococcus aureus* (in this case a resistant strain) . . . we introduce the five most frequently used antibiotics.

Twenty-four hours later (in this greatly enlarged photograph), note that only *one* of the five leading antibiotics has stopped *all* the organisms, including the resistant staph! This is Panalba.

In your next pneumonia patient . . . in *all* your patients with potentially-serious infections . . . provide this extra protection with your prescription:

Dosage—1 or 2 capsules 3 or 4 times a day.
Supplied—Capsules containing Panmycin phosphate equivalent to 250 mg. tetracycline hydrochloride, and 125 mg. Albamycin as novobiocin sodium, in bottles of 16 and 100.
Now available: new Panalba Half-Strength Capsules in bottles of 16 and 100.

Panalba*

(Panmycin* Phosphate plus Albamycin*)

The broad-spectrum antibiotic of *first* resort

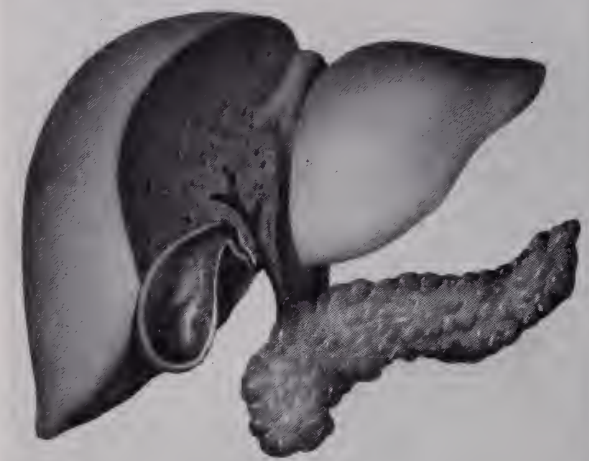


Upjohn The Upjohn Company
Kalamazoo, Michigan

*TRADEMARK, REG. U. S. PAT. OFF.

AN AMES CLINIQUICK®

CLINICAL BRIEFS FOR MODERN PRACTICE



why should the urine be tested for sugar in acute cholecystitis?

The high incidence of pancreatic disease associated with pathologic conditions of the biliary tract indicates their close relationship. The appearance of glycosuria in acute cholecystitis points to involvement of the pancreas in the inflammatory process.

Source: Refresher Article: Biliary Tract Diseases, M. Times *85*:1081, 1957.

to help forewarn of pancreatic involvement...
and for reliable urine-sugar testing at any time

color-calibrated CLINITEST® BRAND Reagent Tablets

"...the most satisfactory method for home and office routine testing...."
GP *16*:121 (Aug.) 1957.

- STANDARDIZED READINGS...familiar blue-to-orange spectrum
- STANDARDIZED "PLUS" SYSTEM...covers entire clinical range
- STANDARDIZED SENSITIVITY...avoids insignificant trace reactions

consistently reliable results
day after day...
test after test

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COMPANY, INC
Elkhart • Indiana
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65159


extra
active
Lederle introduces a masterpiece of antibiotic design

Strikingly enhances the traditional advantage of broad-spectrum antibiotics...

for greater patient-physician benefit

DECLOMYCIN is a unique fermentation product of a strain of *Streptomyces aureofaciens*—the parent organism of AUREOMYCIN®* and ACHROMYCIN.®†

DECLOMYCIN singularly achieves:

- far greater antibiotic activity with far less drug
- greater stability in body media
- unrelenting peak activity throughout therapy
- "extra-day" protection through sustained activity

DECLOMYCIN retains:

- unsurpassed broad-spectrum range of activity
- rapid activity
- excellent toleration
- effectiveness against infection in nearly all organs or systems—rapid diffusion in body tissues and fluids

**Chlortetracycline Lederle* †*Tetracycline Lederle*

DECLO

Demethylchlortetracycline Lederle

Far greater antibiotic activity with far less antibiotic

Milligram for Milligram, DECLOMYCIN exhibits 2 to 4 times the clinical potency (inhibitory action) of tetracycline against susceptible organisms. Thus, DECLOMYCIN has the advantage of providing significantly higher serum *activity* levels with significantly reduced drug intake.* [1,3,5]

Actually, DECLOMYCIN demonstrates the highest ratio of prolonged activity level to daily milligram intake of any known broad-spectrum antibiotic. Reduction of milligram intake of drug reduces hazards of related physical effect on intestinal mucosa or interaction with gastrointestinal contents.

*Activity level is a far more meaningful basis of comparison than quantitative blood levels, as Hirsch and Finland note. Action upon pathogens is the ultimate value.[1]

MYCIN



Unrelenting peak antimicrobial attack throughout therapy

The high level of DECLOMYCIN activity is uniquely sustained. It is not just an initial phenomenon but is constant—maintained on each day of treatment and between doses—without noticeable diminution of intensity. Peak-and-valley control is eliminated, favoring continuous suppression of pathogens and consequent improvement.

This DECLOMYCIN constant is achieved through remarkably greater stability in body fluids,[2,4,6] resistance to degradation[6] and a low rate of renal clearance[4,5]—all supporting antibiotic activity for extended periods.

DECLO

Demethylchlortetracycline Lederle

"Extra-day" activity for security against relapse

DECLOMYCIN maintains significant antibacterial activity for one to two days after discontinuance of dosage[1]—a major distinction from other antibiotics. Previous drugs have declined abruptly in activity following withdrawal.

DECLOMYCIN thus gives the patient an unusual degree of protection against resurgence of the primary infection, and against secondary infection . . . sequelae not infrequently encountered and often resembling a "resistance problem." Consequently, reinstitution of therapy or a change in therapy should rarely be necessary.

MYCIN



A masterpiece of



greater antibiotic activity

with far less antibiotic intak

unrelenting peak attack

—enhancing the unsurpassed features of tetracycline . . . for greater physician-patient benefits

DECLO

Demethylchlortetracycline Lederle

antibiotic design

plus
"extra-
day"
activity

FOR PROTECTION
AGAINST
RELAPSE



MYCIN

A major contribution of Lederle research



in the distinctive dry-filled duotone capsule

DECLOMYCIN

Demethylchlortetracycline Lederle

available as:

DECLOMYCIN Capsules, 150 mg.
Adult dosage: 1 capsule four times daily.
Pediatric Drops, 60 mg. per cc.
Bottles of 10 cc. with dropper.
Oral Suspension, 75 mg. per 5 cc. tsp.

1. Hirsch, H. A., and Finland, M.: Antibacterial Activity Of Serum Of Normal Subjects After Oral Doses of Demethylchlortetracycline, Chlortetracycline and Oxytetracycline. *New England J. Med.* 260:1099 (May 28) 1959. 2. Hirsch, H. A., Kunin, C. M., and Finland, M.: Demethylchlortetracycline – A New And More Stable Tetracycline Antibiotic That Yields Greater and More Sustained Antibacterial Activity. To be published. 3. Lichter, E. A., and Sobel, S.: The Distribution Of Oral Demethylchlortetracycline In Healthy Volunteers And In Patients Under Treatment For Various Infections. To be published. 4. Kunin, C. M., Dornbush, A. C. and Finland, M.: Distribution And Excretion Of Four Tetracycline Analogues In Normal Young Men. To be published. 5. Kunin, C. M., and Finland, M.: Demethylchlortetracycline: New Tetracycline Antibiotic That Yields Greater and More Sustained Antibacterial Capacity. *New England J. Med.* 259:999 (Nov. 28) 1958. 6. Sweeney, W. M.; Hardy, S. M.; Dornbush, A. C., and Ruegsegger, J. M.: Demethylchlortetracycline: A Clinical Comparison of A New Antibiotic with Chlortetracycline and Tetracycline. *Antibiotics & Chemotherapy* 9:13 (Jan.) 1959.

Rx

Declomycin Caps
150 mg.
Disp # XVI
Sig 1 cap q.i.d.

LEDERLE LABORATORIES,
a Division of AMERICAN CYANAMID COMPANY
Pearl River, New York

Lederle

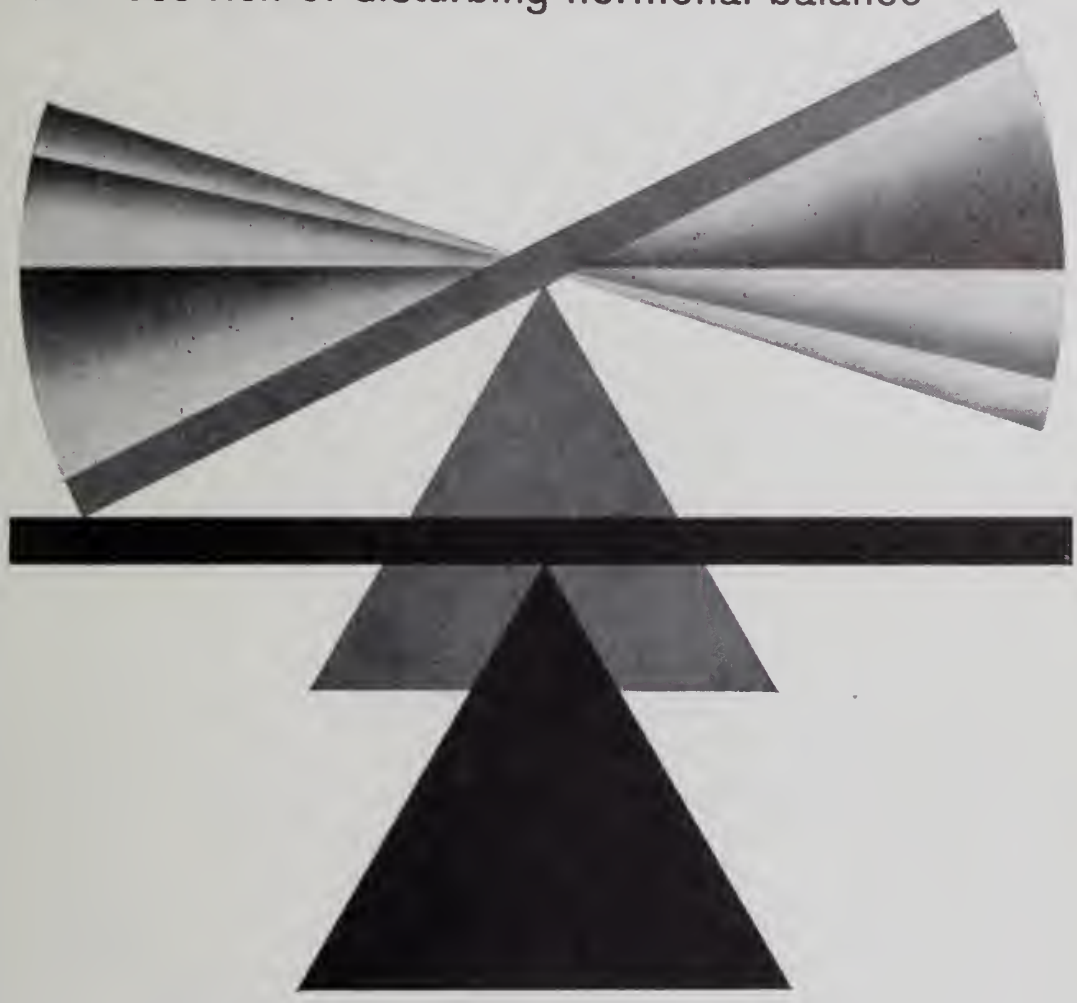
Effective relief in rheumatic disorders

Sterazolidin® capsules

prednisone-phenylbutazone Geigy

Geigy

with less risk of disturbing hormonal balance



In the treatment of the rheumatic disorders new Sterazolidin provides a method of limiting the gravest danger inherent in steroid therapy... hypercortisonism arising from excessive dosage.

Repeatedly it has been shown that the addition of low dosage of Butazolidin sharply reduces hormone requirement.[1-4] Sterazolidin is a combination of prednisone (1.25 mg.) and Butazolidin (50 mg.) which provides, in the majority of cases, consistent relief at a stable uniform maintenance dosage significantly below the level at which serious hormonal imbalance is likely to occur.

Sterazolidin® (prednisone-phenylbutazone Geigy). Each capsule contains prednisone 1.25 mg.; phenylbutazone 50 mg.; dried aluminum hydroxide gel 100 mg.; magnesium trisilicate 150 mg. and homatropine methylbromide 1.25 mg.

1. Kuzell, W. C., and others.: Arch. Int. Med. 92:646, 1953. 2. Wolfson, W. Q.: J. Michigan M. Soc. 54:323, 1955. 3. Strandberg, B.: Brit. J. Phys. Med. 19:9, 1956. 4. Platt, W. D., Jr., and Steinberg, I. H.: New England J. Med. 256:823 (May 2) 1957.

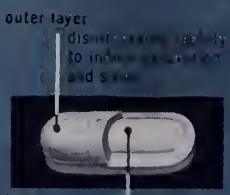
Geigy, Ardsley, New York

03859

For those patients who complain

carries your patients through the middle of the night





Each Nebralin timed-release tablet contains.

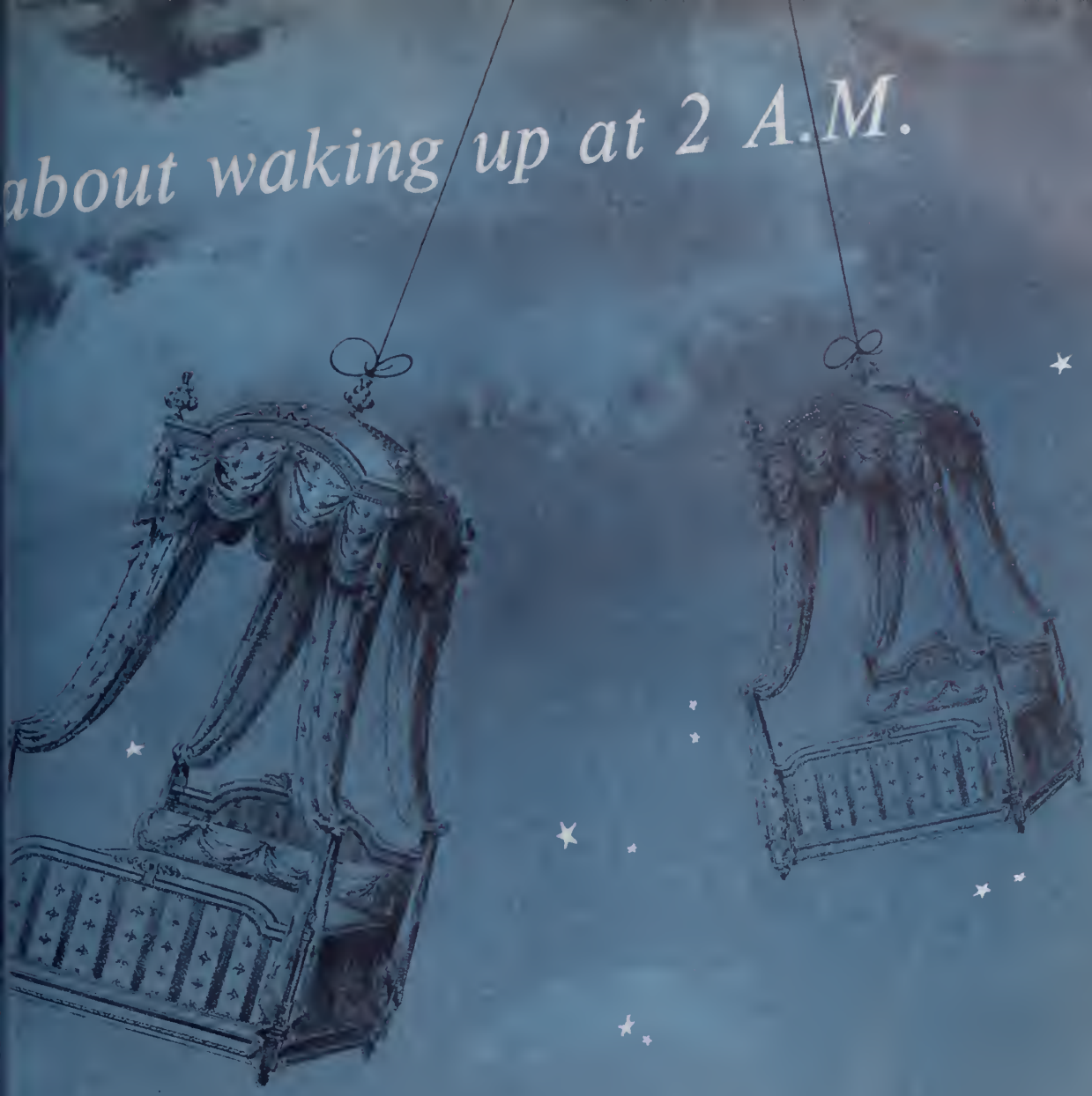
Dorsital ..... 90 m
Warning: May be habit forming

Mephenesin .. 425 m
*Dorsey brand of pentobarbital

CAUTION: Federal law prohibits dispensing without prescription

Dosage: One or two tablets 1 hr before retiring

about waking up at 2 A.M.



nebralin®

med-release tablet

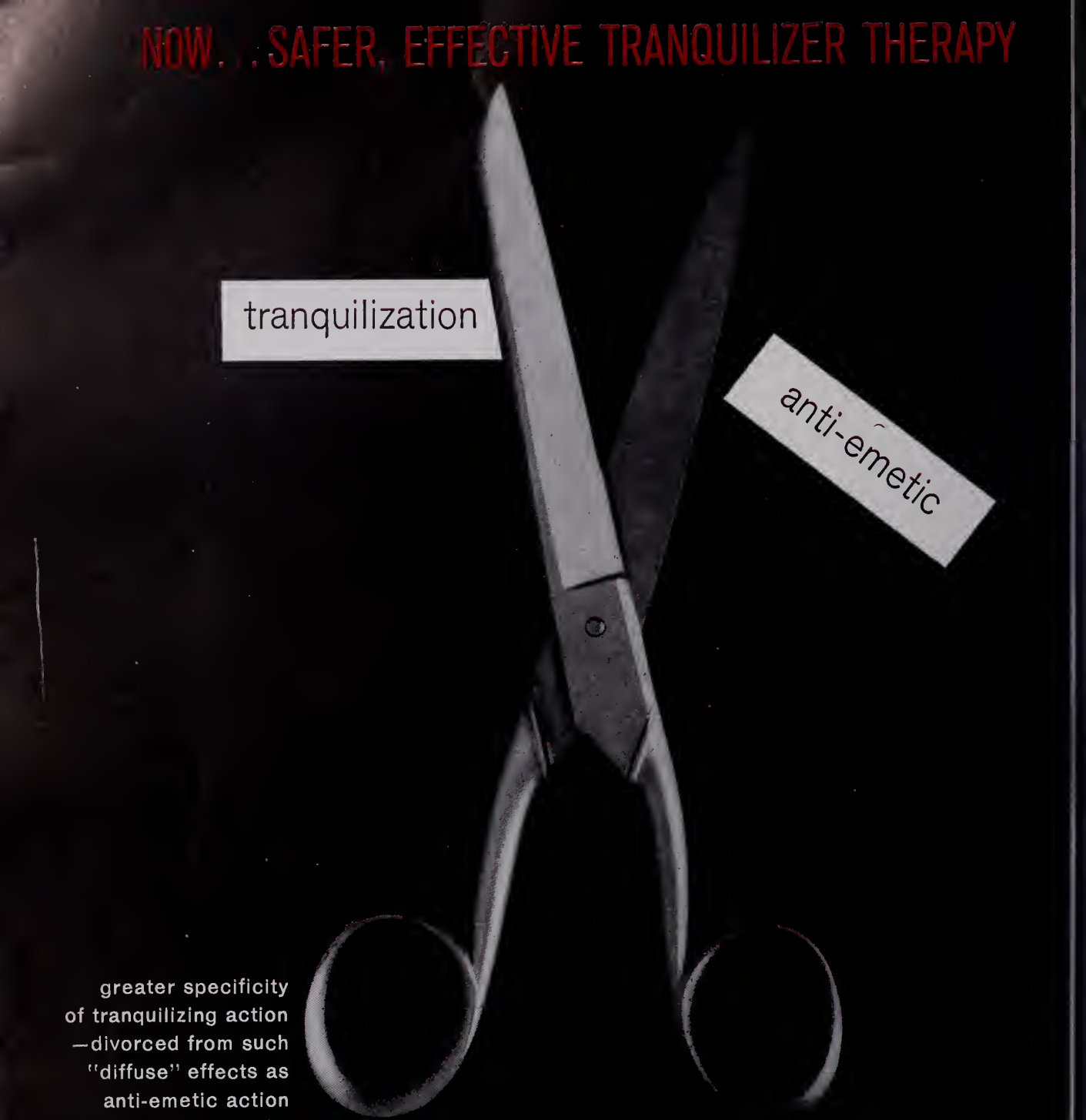
timed-release action for a full night's sleep

NEBRALIN is designed to duplicate the normal sleep pattern. It encourages muscular relaxation and induces sustained, relaxed sleep by the release of Dorsital and mephenesin in a timed-release tablet. Rapid-acting mephenesin quickly relaxes skeletal muscles to overcome "fatigue-tension" and conditions the body for sleep. Dorsital provides CNS sedation to induce sound, relaxed sleep. The initial and sustaining dosages are designed to keep the amount of barbiturate to be inactivated at any one time at a low level tapering toward morning. Evidence indicates that mephenesin is capable of producing sleep,[1] and when combined with a barbiturate enhances barbiturate action.[2-4] Moreover, the integrated action of the two components permits smaller dosages of each,[4] assuring your patients refreshed awakenings without "morning hangover."

1 Schlesinger, E. B.: Tr. New York Acad. Sc. 2:6, (Nov.) 1948.
2 Richards, R. K., and Taylor, J. D.: Anesthesiology 17:414, 1956.
3 Shideman, F. E.: Postgrad. Med. 24:207, 1958.
4 Berger, F.: Pharmacol. Rev. 1:243, 1949.

SMITH-DORSEY · a division of The Wander Company · Lincoln, Nebraska · Peterborough, Canada

NOW. . . SAFER, EFFECTIVE TRANQUILIZER THERAPY



greater specificity of tranquilizing action —divorced from such "diffuse" effects as anti-emetic action —explains why

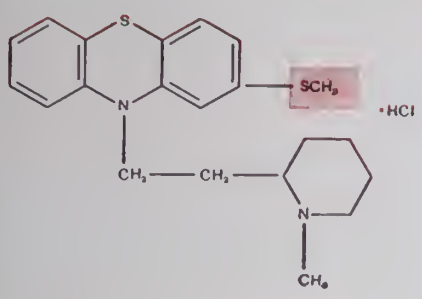
Mellaril®

THIORIDAZINE HCl

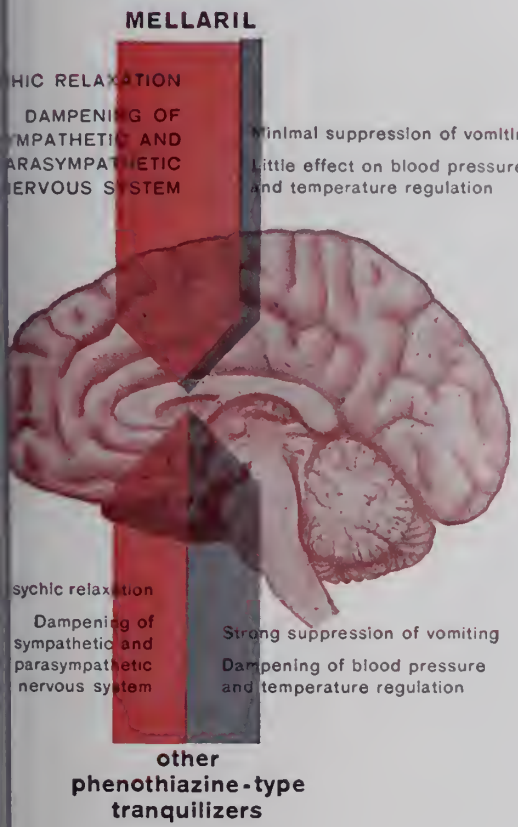
is virtually free of such toxic effects as jaundice Parkinsonism blood dyscrasia

"Thioridazine [MELLARIL] is as effective as the best available phenothiazine, but with appreciably less toxic effects than those demonstrated with other phenothiazines. . . . This drug appears to represent a major addition to the safe and effective treatment of a wide range of psychological disturbances seen daily in the clinics or by the general practitioner."*

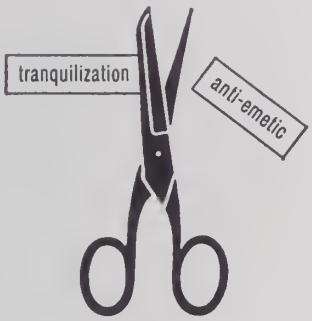
new advance in tranquilization:
reater specificity of tranquilizing action results in fewer side effects



The presence of a thiomethyl radical (S-CH3) in the molecule of Mellaril and could be responsible for the relative absence of side effects and greater specificity of psychotherapeutic action. This is shown clinically by:



1 A specificity of action on certain brain sites in contrast to the more generalized or "diffuse" action of other phenothiazines. This is evidenced by a lack of appreciable anti-emetic effect.



2 Less "spill-over" action to other brain areas — hence, absence of undue sedation, drowsiness or autonomic nervous system disturbances.

3 A notable absence of extrapyramidal stimulation.

4 Lack of impairment of patient's normal drive and energy.

5 Virtual freedom from such toxic effects as jaundice, photosensitivity, skin eruptions, blood forming disorders.

INDICATION	USUAL STARTING DOSE	TOTAL DAILY DOSAGE RANGE
ADULTS: Mental and Emotional Disturbances:		
MILD—where anxiety, apprehension and tension are present	10 mg. t.i.d.	20-60 mg.
MODERATE—where agitation exists in psychoneuroses, alcoholism, intractable pain, senility, etc.	25 mg. t.i.d.	50-200 mg.
SEVERE—in agitated psychotic states as schizophrenia, manic depressive, toxic psychoses, etc.:		
Ambulatory	100 mg. t.i.d.	200-400 mg.
Hospitalized	100 mg. t.i.d.	200-800 mg.
CHILDREN: BEHAVIOR PROBLEMS IN CHILDREN	10 mg. t.i.d.	20-40 mg.

LARIL Tablets, 10 mg., 25 mg., 100 mg.

d, A. M.: Scientific Exhibit, American Academy
heral Practice, San Francisco, April 6-9, 1959

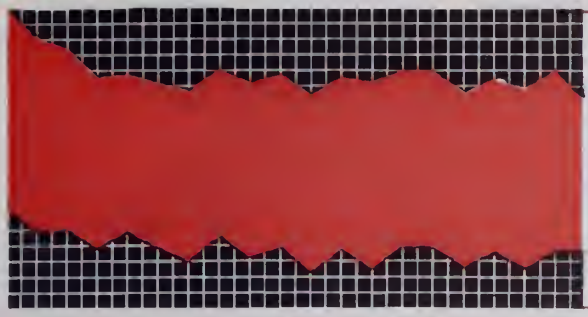
SANDOZ

greater antihypertensive effect...fewer side effects

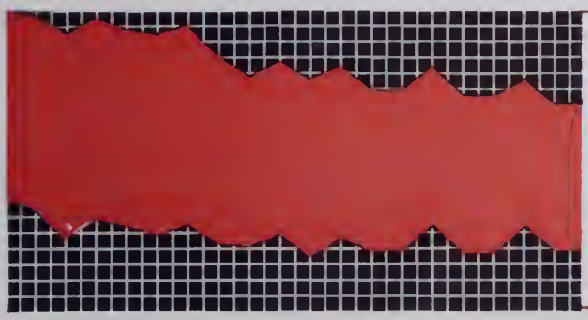
HYDROPRES*



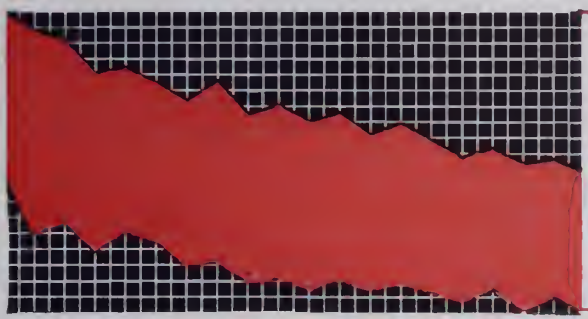
For complete information write Professional Services, Dept. H, Merck Sharp & Dohme, West Point, Pa.



HYDRODIURIL alone



RESERPINE alone



HYDROPRES
much more effective
than either of its
components alone

- Effective by itself in a majority of patients. Provides smooth, more trouble-free management of hypertension.
- Since HYDRODIURIL and reserpine potentiate each other, the required dosage of each is lower when given together as HYDROPRES than when either is given alone.
- HYDROPRES provides the needed and valuable tranquilizing effect of reserpine. Lower dosage may reduce such side effects of reserpine as excessive sedation and depression.
- Arrest or reversal of organic changes of hypertension may occur.
- Headache, dizziness, palpitations and tachycardia are usually promptly relieved. Anginal pain may be reduced in incidence and severity.
- With HYDROPRES, dietary salt may be liberalized.
- Convenient, controlled dosage.

HYDROPRES-25
25 mg. HYDRODIURIL, 0.125 mg. reserpine.
One tablet one to four times a day.

HYDROPRES-50
50 mg. HYDRODIURIL, 0.125 mg. reserpine.
One tablet one or two times a day.

If the patient is receiving ganglion blocking drugs or hydralazine, their dosage must be cut in half when HYDROPRES is added.

MSD MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

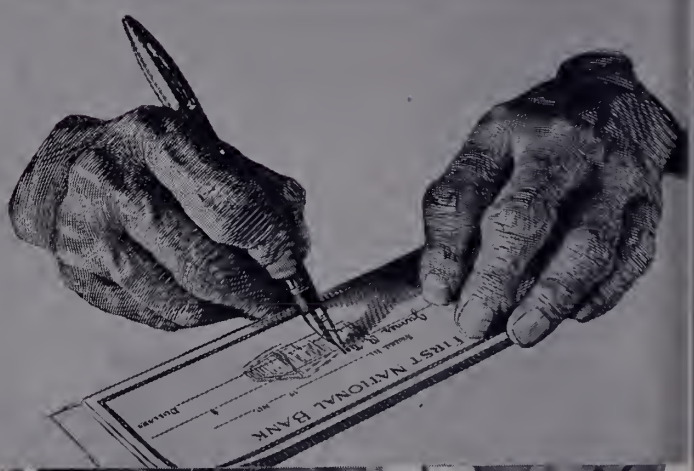
*HYDRODIURIL AND HYDROPRES ARE TRADEMARKS OF MERCK & CO., INC.

WITHOUT STEROIDS

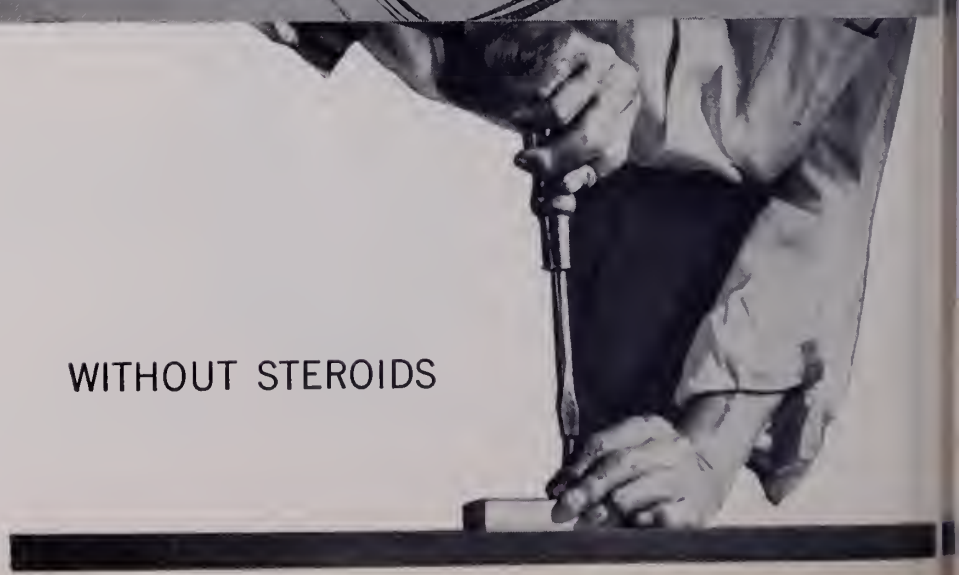


In every arthritic state.

WITHOUT STEROIDS



WITHOUT STEROIDS



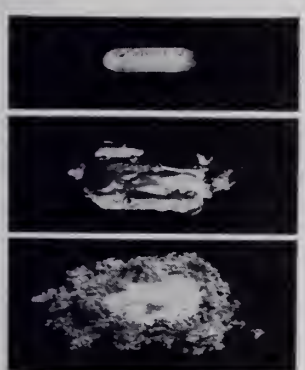
MAINTENANCE THERAPY WITHOUT STEROIDS IS FUNDAMENTAL

Sound, conservative therapy with salicylates has been consistently reaffirmed as basic, long-term maintenance therapy in the arthritides.

Buffered Pabirin provides superior maintenance therapy. It epitomizes fundamental long-term basic therapy since it can be given month after month without serious complications and with minimal problems to patient and doctor alike.

Buffered Pabirin is formulated to provide high and sustained salicylate blood levels. Each tablet consists of an outer layer containing a buffer (aluminum hydroxide), para-aminobenzoic acid, and ascorbic acid; a core of acetylsalicylic acid.

In the stomach, the outer layer quickly releases the buffer, which protects against nausea, dyspepsia and other gastrointestinal symptoms so frequently encountered with salicylates alone. The core of Buffered Pabirin then disintegrates rapidly, permitting rapid absorption of the acetylsalicylic acid for faster pain relief.



Photographs show 2-stage Tandem Release disintegration.

Each tablet contains:
Acetylsalicylic acid (5 gr.).....300 mg.
Para-aminobenzoic acid (5 gr.)....300 mg.
Ascorbic acid ..... 50 mg.
Dried aluminum hydroxide gel....100 mg.

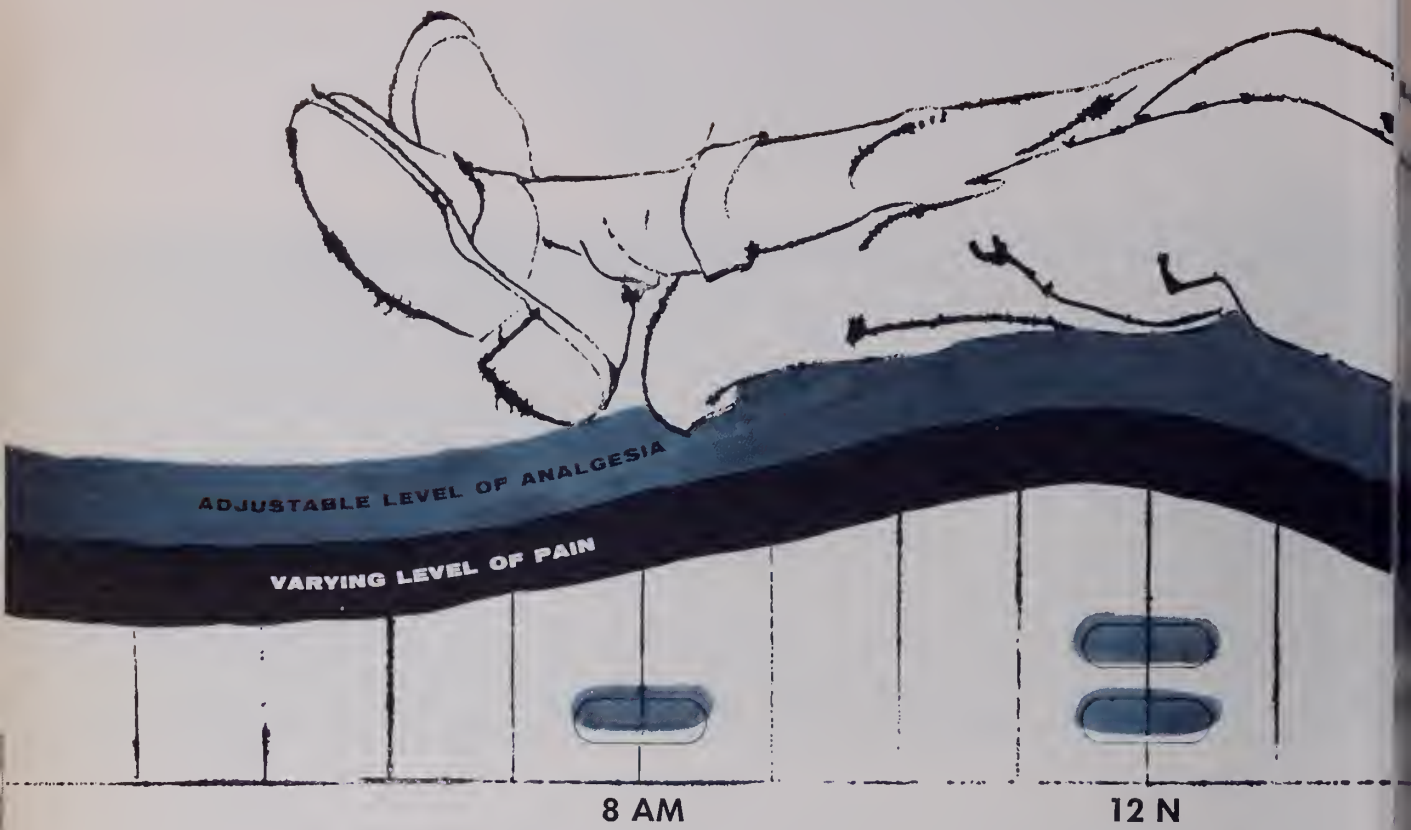
All Buffered Pabirin is sodium- and potassium-free.

Dosage: Two or three tablets 3 or 4 times daily.

References: 1. Hart, D.; Bagnall, A. W.; Bunim, J. J., and Polley, F. H.: Ninth International Congress on Rheumatic Diseases, Toronto, Ont. (June 25) 1957. 2. Report of Joint Committee, Medical Research Council & Nuffield Foundation, Treatment of Rheumatoid Arthritis, British Medical Journal (April 13) 1957. 3. Friend, D. G.: New England J. Med. 257:278 (Aug.) 1957.

Buffered **Pabirin®** *Tablets*

SMITH-DORSEY · a division of The Wander Company · Lincoln, Nebraska · Peterborough, Canada



keep all patients* pain-free at all times

- with the proper potency to match pain intensity
- with dosage flexibility to match pain variations

Phenaphen®

or

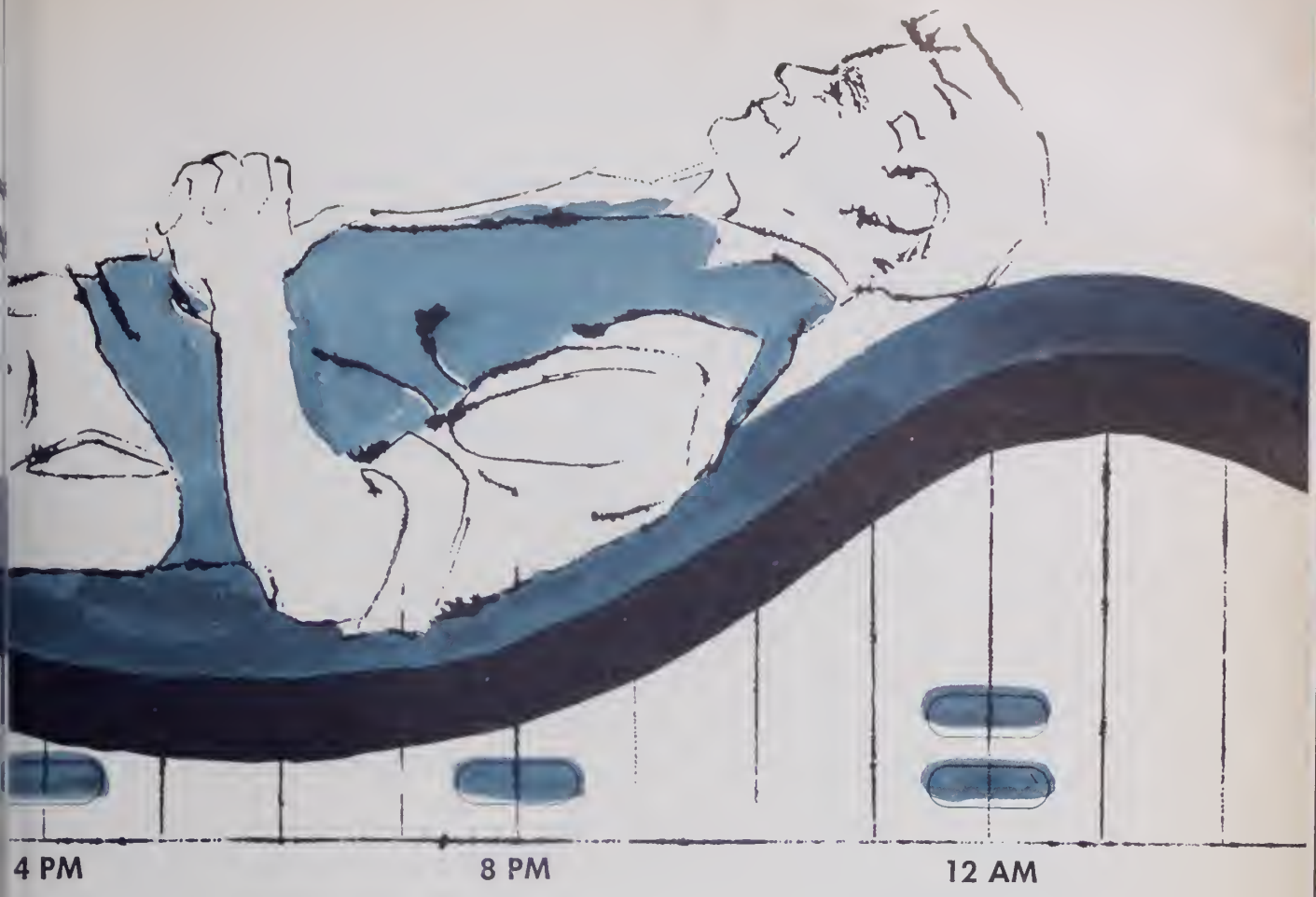
Phenaphen®-with Codeine

*except those for whom recourse to morphine is inescapable.

Robins

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA

Ethical Pharmaceuticals of Merit since 1878



Phenaphen and Phenaphen with Codeine provide
a wide range of analgesia, plus complete dosage flexibility,
to match varying pain requirements.

Yours to prescribe:

The **right** dose of the **right** potency at the **right** time.

Phenaphen

Basic non-narcotic formula

For mild to moderate pain

Each capsule contains:

Phenacetin (3 gr.)	194.0 mg.
Acetylsalicylic acid (2½ gr.)	162.0 mg.
Phenobarbital (¼ gr.)	16.2 mg.
Hyoscyamine sulfate	0.031 mg.

Phenaphen No. 2

Phenaphen with Codeine Phosphate ¼ gr. (16.2 mg.)

For moderate to severe pain

Phenaphen No. 3

Phenaphen with Codeine Phosphate ½ gr. (32.4 mg.)

For severe or stubborn pain

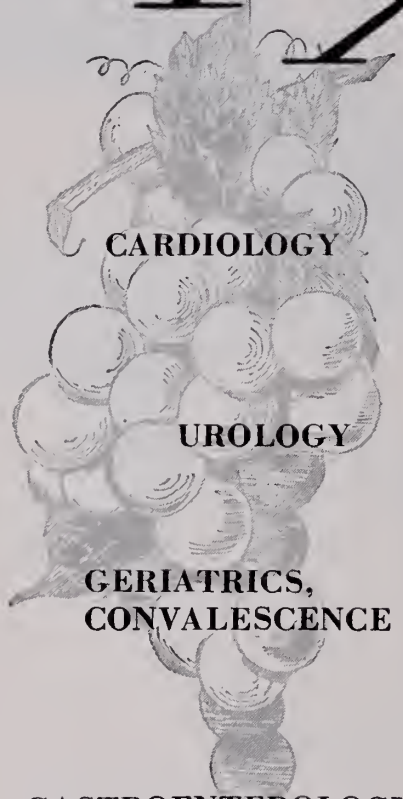
Phenaphen No. 4

Phenaphen with Codeine Phosphate 1 gr. (64.8 mg.)

For stubborn or intense pain—to obviate or postpone use of morphine or addicting synthetic narcotics

DOSAGE: One or two capsules as required.

Recent research* confirms the widening Rx FIELD for WINE



CARDIOLOGY

UROLOGY

GERIATRICS, CONVALESCENCE

GASTROENTEROLOGY

DIABETES

WINE has been used with excellent effect for the relief of pain, discomfort, apprehension and anxiety in angina pectoris, thromboangiitis obliterans, Raynaud's disease and hypertension.

The judicious use of WINE can brighten the otherwise monotonous, unappealing diet in renal disease. It increases glomerular blood flow, stimulates diuresis, is nonirritating to the kidneys.

By stimulating appetite, supplying quick energy source, relaxing tensions and increasing morale, the prudent use of WINE has been described as a balm for the convalescent and "milk" for the aged.

In moderate amounts WINE increases gastric secretion, relaxes gastric tension and, therefore, is a valuable aid in the treatment of anorexia, hypochlorhydria, dyspepsia, spastic constipation and diarrhea.

In the normal diet of the diabetic, WINE can serve as an excellent energy source which does not require the participation of insulin.

These and other therapeutic uses for wine are discussed in *"Uses of Wine in Medical Practice." For your free copy write—Wine Advisory Board, 717 Market Street, San Francisco 3, California.

Now—All cold symptoms can be controlled



Tussagesic

timed-release tablets

Controls congestion

with Triaminic,[1,2,3] the leading oral nasal decongestant.

Controls aches and fever

with well-tolerated APAP, non-addictive analgetic[4] and excellent antipyretic.[5]

Each TUSSAGESIC Tablet provides:

TRIAMINIC® .....50 mg.
(phenylpropanolamine HCl .....25 mg.
pheniramine maleate .....12.5 mg.
pyrilamine maleate .....12.5 mg.)
Dormethan
(brand of dextromethorphan HBr)..... 30 mg.
Terpin hydrate .....180 mg.
APAP (N-acetyl-p-aminophenol) .....325 mg.

References: 1. Lhotka, F. M.: Illinois M. J. 112:259 (Dec.) 1957. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958. 4. Bonica, J. J.: in Drugs of Choice, Mosby, St. Louis, 1958, p. 272. 5. Dascomb, H. E.: in Current Therapy, Saunders, Phila., 1958, p.78. 6. Bickerman, H. A.: in Drugs of Choice, Mosby, St. Louis, 1958, p.547.

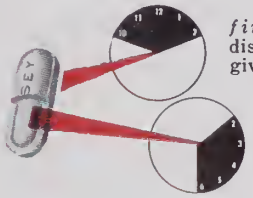
Controls cough centrally

with non-narcotic Dormethan, possessing "amply demonstrated" antitussive activity,[6] as effective as codeine.

Liquefies tenacious mucus

with terpin hydrate, classic expectorant.

Prompt and prolonged relief because of this special "timed release" design:



first – the outer layer dissolves within minutes to give 3 to 4 hours of relief

then – the inner core releases its ingredients to sustain relief for 3 to 4 more hours

Dosage: One tablet in the morning, midafternoon and at bedtime. Pediatric dosage chart for Tussagesic Suspension available on request.

TUSSAGESIC SUSPENSION provides palatability and convenience which make it especially attractive to children and other patients who prefer liquid medication.

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska

MORE
HIGHLY INDIVIDUALIZED
THERAPY
FOR THE
RHEUMATIC
"IN-BETWEEN"

when the
rheumatic
disorder
is more
than salicylates
alone
can control...

...
cont
requires
th
intens
steroid thera
al

Aristo

wider latitude in adjusting dosage

ARISTOGESIC is particularly effective for relief of chronic — but less severe — pain of rheumatic origin. ARISTOGESIC combines the anti-inflammatory effects of ARISTOCORT® Triamcinolone with the analgesic action of salicylamide, a highly potent salicylate. Dosage requirements for ARISTOGESIC are substantially lower than generally required for each agent alone. The exceptionally wide latitude of dosage adjustment with ARISTOGESIC permits well-tolerated therapy for long periods of time with fewer side effects.

Indications: Mild cases of rheumatoid arthritis, tenosynovitis, synovitis, bursitis, mild spondylitis, myositis, fibrositis, neuritis, and certain muscular strains.

Dosage: Average initial dosage: 2 capsules 3 or 4 times daily. Maintenance dosage to be adjusted according to response.

Precautions: All precautions and contraindications traditional to corticosteroid therapy should be observed. The amount of drug used should be carefully adjusted to the lowest dosage which will suppress symptoms. Discontinuance of therapy must be carried out gradually after patients have been on steroids for prolonged periods.

Each ARISTOGESIC Capsule contains:

ARISTOCORT® Triamcinolone	0.5 mg.
Salicylamide	325 mg.
Dried Aluminum Hydroxide Gel	75 mg.
Ascorbic Acid	20 mg.

Supply: Bottles of 100 and 1,000.

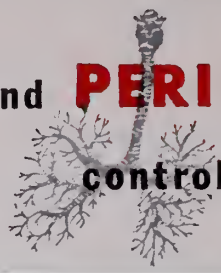


Lederle

ERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

Both CENTRAL and PERIPHERAL control of cough





SYNEPHRICOL® cough syrup

ANTITUSSIVE • DECONGESTANT • ANTIHISTAMINIC

Combines:
Central Antitussive Effect — mild, dependable
Topical Decongestion — prompt prolonged
plus Antihistaminic and Expectorant Action

Winthrop LABORATORIES
NEW YORK 18, N. Y.

Each teaspoonful (4 cc.) contains:

Neo-Synephrine® hydrochloride	5.0 mg
Thenfadil® hydrochloride	4.0 mg
Dihydrocodeinone bitartrate	1.33 mg
Potassium guaiacol sulfonate	75.0 mg
Ammonium chloride	70.0 mg
Menthol	1.0 mg
Chloroform	0.02 cc.
Alcohol	5%

Bottles of 16 fl. oz.

EXEMPT NARCOTIC



JUST ONE TABLET DAILY

provides therapeutic levels . . . for 24 hours . . .
with low incidence of sensitivity reactions . . .
WHENEVER SULFAS ARE INDICATED

KYNEX®

Sulfamethoxypyridazine Lederle
0.5 Gm. TABLETS/NEW ACETYL PEDIATRIC SUSPENSION
LEDERLE LABORATORIES, a Division of
AMERICAN CYANAMID COMPANY, Pearl River, New York

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★



when upper respiratory congestion is complicated by bacterial invaders

TRISULFAMINIC provides logical therapy

- for the patient ill with congestion and infection of the upper respiratory tract, as in purulent rhinitis, sinusitis, tonsillitis and otitis media, when caused by sulfa-susceptible bacteria;
- because secondary invasion by such bacteria so frequently follows the common cold.[1]

the reasons for combining Triaminic with triple sulfas

Triaminic and triple sulfas are not only pharmacologically *compatible*, they are a therapeutically *logical* combination for upper respiratory infections: Triaminic for effective decongestant relief from rhinitis, rhinorrhea and sinusitis;[2] triple sulfas for well-established antibacterial action.

The advantages of Trisulfaminic in upper respiratory infections include: proved effectiveness; safety; economy; ease of administration; less likelihood of sensitivity reactions;[3] compatibility with antibiotics and other antibacterial therapy. Provided also as Suspension for additional convenience.

Trisulfaminic®

TRIAMINIC WITH TRIPLE SULFAS

Available as TABLETS and SUSPENSION

Each easy-to-swallow Trisulfaminic Tablet or 5 ml. teaspoonful of Suspension provides:

Triaminic® .....25 mg.
(phenylpropanolamine HCl 12.5 mg.
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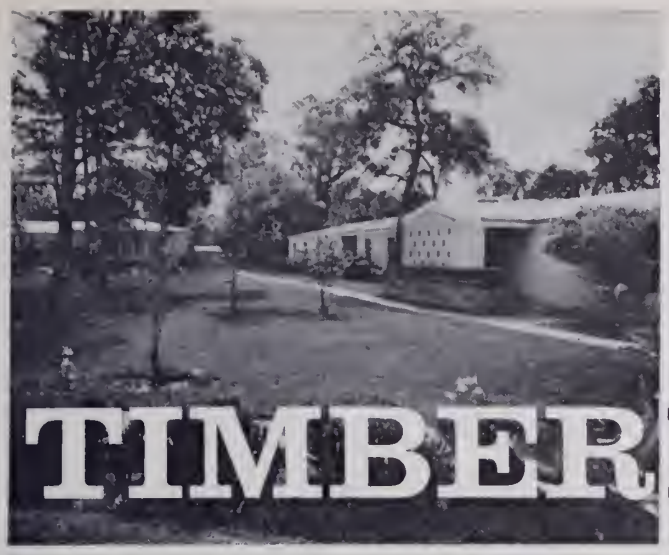
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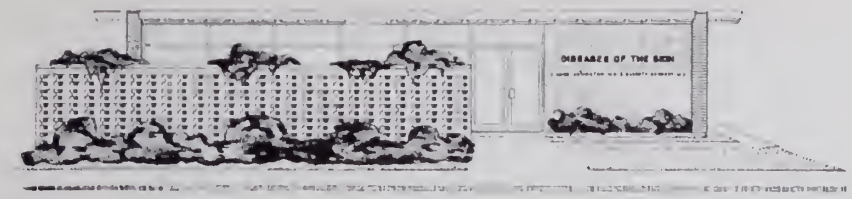
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References: 1. Collective Study, Department of Medical Research, Winthrop Laboratories. 2. Lichtman, A. L.: New developments in muscle relaxant therapy, *Kentucky Acad. Gen. Pract. J.* 4:28, Oct., 1958. 3. Lichtman, A. L.: Relief of muscle spasm with a new central muscle relaxant, chlormezanone (Trancopal), Scientific Exhibit, Meeting of the International College of Surgeons, Miami Beach, Fla., Jan. 4-7, 1959. 4. Ganz, S. E.: Clinical evaluation of a new muscle relaxant (chlormethazanone), *J. Indiana M. A.* 52:1134, July, 1959. 5. Mullin, W. G., and Epifano, Leonard: Chlormezanone, a tranquilizing agent with potent skeletal muscle relaxant properties, *Am. Pract. Digest Treat.* 10:1743, Oct., 1959. 6. Shanaphy, J. F.: Chlormezanone (Trancopal) in the treatment of dysmenorrhea; a preliminary report, *Current Therap. Res.* 1:59, Oct., 1959.

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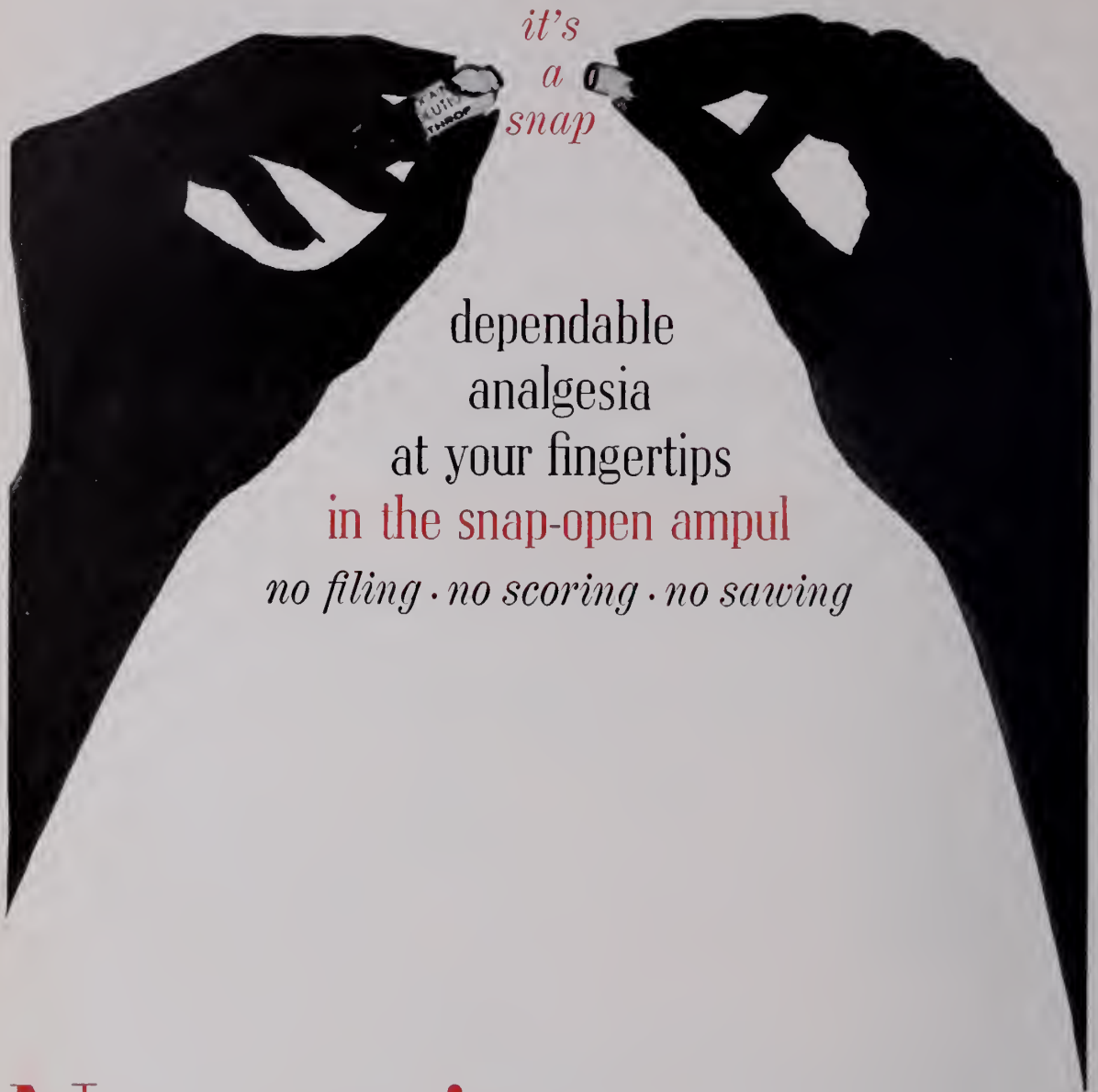
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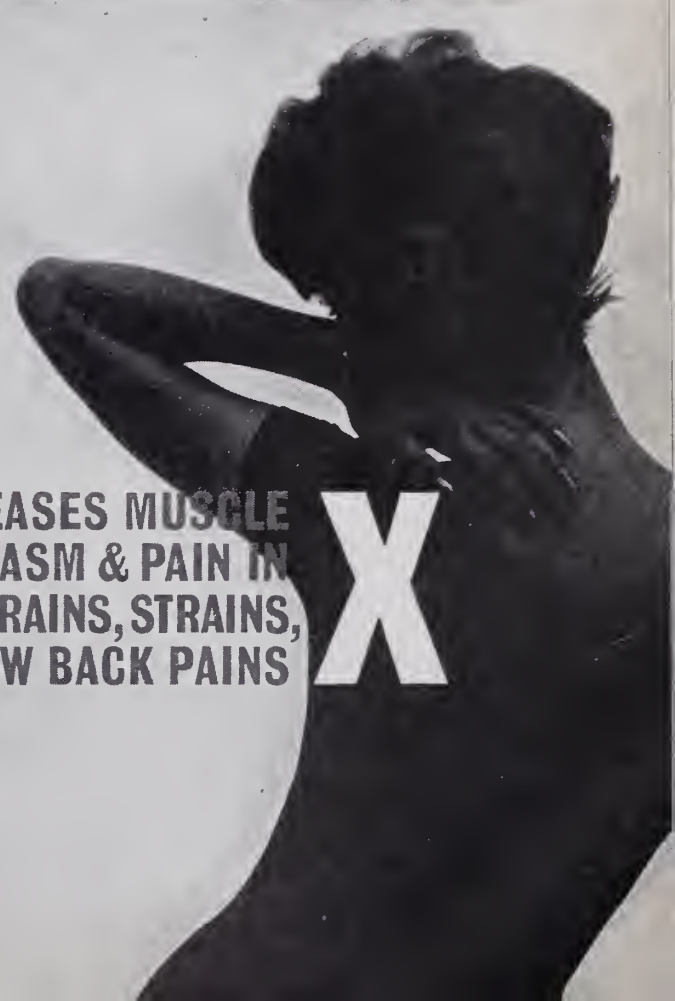
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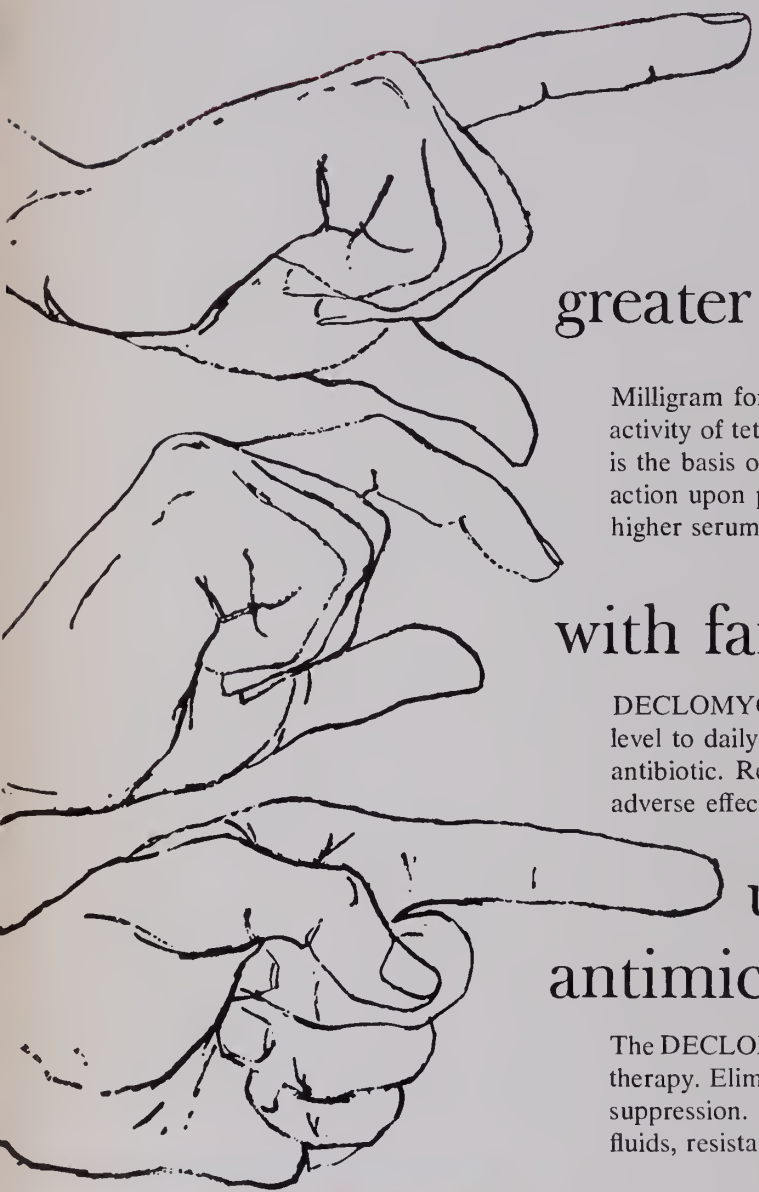
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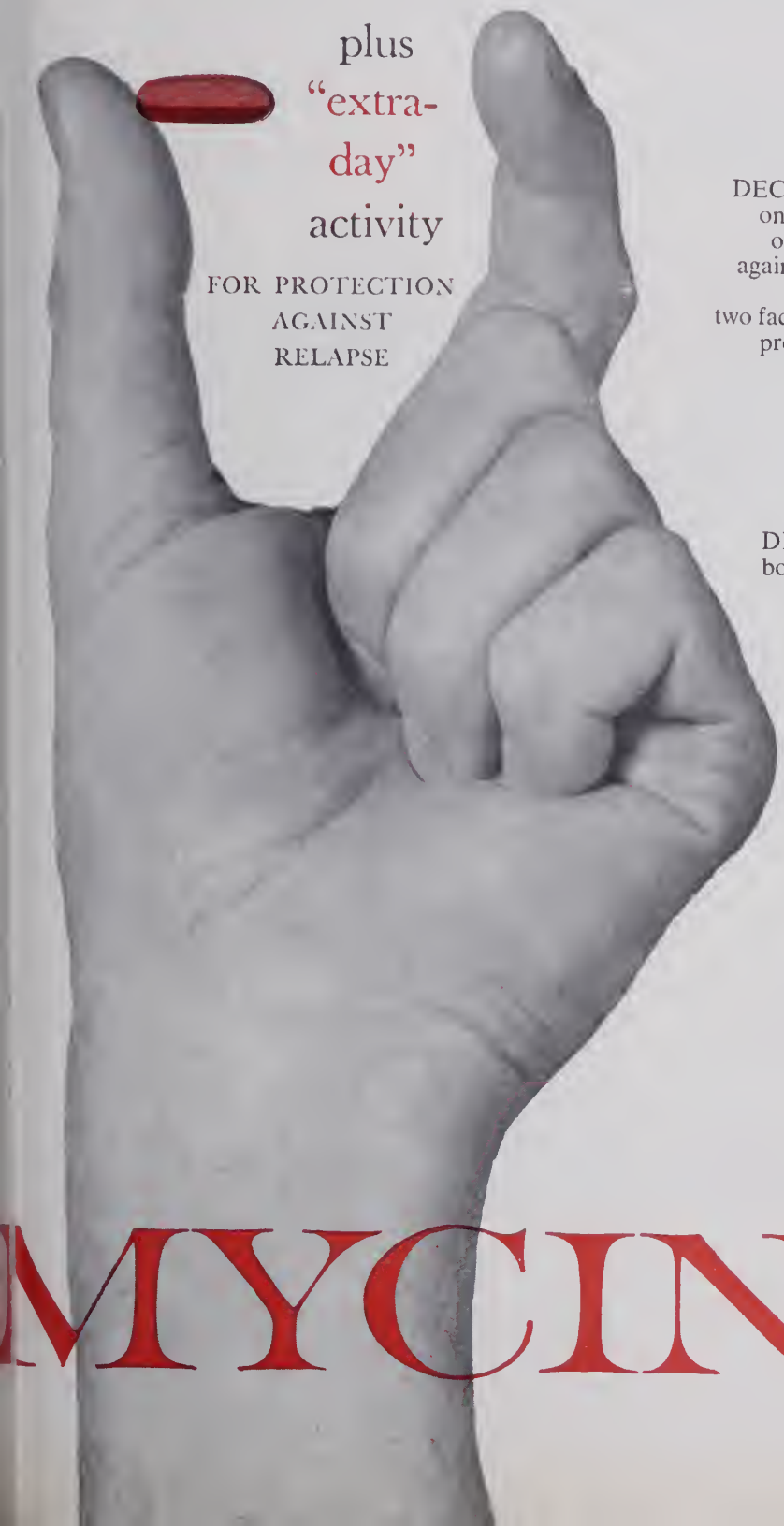
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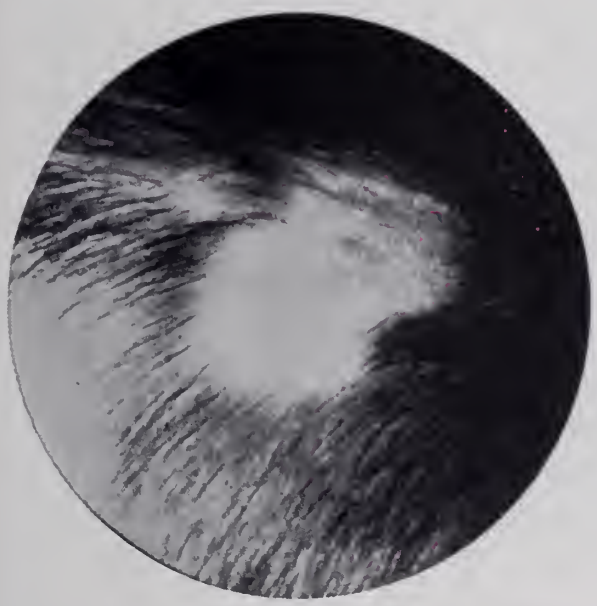
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Coronary Occlusion Followed by Pregnancy A Review of the Literature and Report of Two Cases*

• Whether coronary occlusion precedes or occurs during pregnancy, the situation is a serious one, but recovery and normal delivery are to be expected.

JOE E. HOLOUBEK, M. D.
RICHARD B. LANGFORD, M. D.
LUCIEN V. LANDRY, M. D.
J. OTIS BROYLES, M. D.
Shreveport

MYOCARDIAL infarction is rare among women of the child-bearing age. Out of 1,045 cardiac deaths occurring in the Charity Hospital at New Orleans, from 1935 through 1940,[1] only four were due to coronary occlusion in women below the age of forty. Their ages were 30, 35, 35 and 37. In Lee and Thomas'[2] study of 599 autopsied cases of acute myocardial infarction, there were 164 females with only 5 below the age of 40. There were 20 in the fourth decade of life. Keil and McFay[3] reviewed the records of 519 cases of myocardial infarction. Of the 178 females, only 1 had her occlusion below the age of 40. Master, Dack and Jaffe[4] reviewed 500 cases of coronary occlusion. There were only 6 between the ages of 27 and 39 years out of the 113 females in the group.

James et al[5] reviewed case reports of 146 women with myocardial infarction. Three of the 11 that had infarcts prior to menopause died. There were only 5 in this group below the age of forty. Recently James and Brown[6] studied 2,843 patients with coronary occlusions and found 43 below the age of 35 years. Of this group, 4 were females, ages 28, 31, 33 and 34 years.

Even though it is extremely rare, coronary occlusion followed by recovery may occur before menopause in the female. Therefore, the possibility of future pregnancies in these patients must be considered.

We have attempted to review the literature on cases of coronary occlusion occurring during pregnancy and also those in which coronary occlusion was followed

* Presented at the Seventy-ninth Annual Meeting of the Louisiana State Medical Society, May 6, 1959, in New Orleans.

From the Medical & Obstetrical Department of T. E. Schumpert Memorial Sanitarium, Shreveport, La.

by pregnancy. In this report we have used only those who had electrocardiographic or autopsy evidence of an occlusion.

Coronary Occlusion Occurring During Pregnancy

The first reported case is that of Katz [7] in 1922. This was a 33 year old multipara who was treated for heart disease for the last five months of her pregnancy. She died of cardiac arrest during labor. Autopsy revealed atherosclerosis of the coronary vessels with areas of whitish swelling in a dilated left ventricle. Reiss and Frankenthal [8] reported a 45 years old gr. VI para V who had chronic myocardosis, arteriosclerosis, and a hypertension of 210/140. She was hospitalized at the fourteenth week of her pregnancy for abortion and sterilization but refused the procedure. At the thirty-fourth week she developed a coronary occlusion while she was in bed for treatment of heart failure. She delivered with the aid of forceps forty hours later, at which time she had another occlusion. She survived. White et al,[9] in 1937, reported a 22 year old Jewish woman who had a lateral infarction during the second month of pregnancy. She delivered successfully with episiotomy and low forceps at term.

Jensen [10] cited the case of Singleton. This was a 39 year old para III, gr. V who had an anterior myocardial infarction at the beginning of the third trimester of pregnancy. She recovered and went into normal labor at term ten weeks later. The anesthetic was ether in oil rectally. The puerperium was uneventful.

Hamilton and Thomason [11] reported a 42 year old patient with mild hypertension and angina pectoris, an enlarged heart, gallop rhythm and electrocardiographic evidence of coronary disease. She survived a normal delivery. They also reported a 28 year old nurse who had severe angina and electrocardiographic evidence of an occlusion. The blood pressure was 220/130. The patient developed cardiac failure and hemiplegia at the fourth week of her pregnancy and died.

Goldberger and Porkeress [12] cite the case of a 37 year old female who had rheumatic heart disease, right and left ventricular failure, and anterior myocardial infarction. She delivered a 7½ month live baby at term and was discharged on the seventh postpartal day.

Mendelson [13] studied 2310 cardiac patients out of 64,992 patients in the New York Lying-In Hospital between 1932 and 1950. He reported a 42 year old white patient para I, gr. II who had a blood pressure of 210/120. She had a posterior occlusion during the fifth month of her pregnancy, was on Dicumarol for two months and had a Cesarean section the thirty-ninth week of her pregnancy. The convalescence was uneventful.

He also reported a hypertensive 42 year old para VII, gr. XIII who developed severe dyspnea and a cough without chest pain in the thirtieth week of her pregnancy. She was admitted in cardiac failure and had an elevated temperature, white count, and sedimentation rate. The electrocardiogram revealed depressed RS T segments and inverted and coved T waves in leads 1, 2 and C F_4. These abnormalities were felt to be due to digitalis, but, in view of the patient's course, were compatible with coronary insufficiency. The patient did not respond to diuretics, oxygen, and digitalis, and died undelivered two days later. No autopsy was obtained.

Fitzgerald et al [14] had one patient with coronary sclerosis out of 1030 pregnant patients referred for cardiac evaluation, 1936-1947. She survived delivery. There were no further details.

Brock, Russell and Randall [15] reported a 34 year old mild diabetic who had an anterior occlusion during the second month of pregnancy. For two days prior to this occlusion she had substernal pain radiating to the left elbow. She was placed in bed for six weeks and given Dicumarol. With the aid of saddle block anesthesia she delivered normally at term.

Levine [16] cites the case of a 22 year old patient who had coronary thrombosis and myocardial infarction during the early months of her pregnancy. She had no previous angina and none after the coro-

nary attack. Recovery was uncomplicated, delivery was normal.

Stewart [17] states that he has seen two patients with myocardial infarction in pregnancy. One was a hypertensive who suffered an anterior apical myocardial infarction in the thirty-second week of her pregnancy. She developed rapid and severe pulmonary edema and died within a few hours in spite of rapid digitalization, oxygen, and other specific measures. His second patient, a 42 year old female, who had been hypertensive for twelve years and had a posterior myocardial infarction at the nineteenth week of her pregnancy. She was placed on Dicumarol and remained in bed five and one-half weeks after which she was ambulatory about the hospital until delivery. Dicumarol was continued for a total of nine and one-half weeks. Since her previous pregnancy two years earlier was terminated by Cesarean section because of hypertension, a repeat section was done at term, using local, pentothal, and gas-oxygen ether anesthesia. The course before and after section was without incident.

Gordon [18] reviewed the death certificates of 176 maternal deaths in New York City, 1927-51. He reported that 7 died at home unattended during the last trimester. All of these were considered acute coronary occlusions by their physicians, but only 2 were diagnosed at autopsy and 1 had electrocardiographic proof of coronary disease. No further clinical reports are available.

Antonius et al [19] reported a 36 year old white patient who in the seventh month of her pregnancy developed an anterior wall infarction. She developed basal rales and was given diuretics. She went into premature labor and delivered a 2 lb. 14 oz, male that night. The postpartal course was satisfactory except for a precordial friction rub which lasted six days. One year later she had another normal delivery without complications.

Seigler, Hoffman and Bloom [20] reported a 38 year old white, mild diabetic patient who had a myocardial infarction during the sixth week of her pregnancy. She had a still birth at the thirty-sixth week and developed thrombophlebitis postpartally.

Fossell and Brunila [21] reported a 38 year old hypertensive patient who developed an anterior myocardial infarction during pregnancy. Anticoagulants were used. She was sectioned two weeks before term. They also reported a 44 year old patient who in the fourth month of her pregnancy developed an anterior myocardial infarction. She developed pulmonary edema and responded to treatment. A macerated fetus was delivered three weeks later. She was discharged on the fifth postpartal day.

From the above reports, we find 22 cases of proven coronary occlusion occurring during pregnancy. The ages vary from 22 to 44 with an average age of 37. There were 8 hypertensives and 2 diabetics in the group. Of the 15 who survived, 2 had premature spontaneous abortions, 2 had still births at term, 3 were sectioned at term, and 8 delivered normally. Of the 7 that died, 3 were obtained from death certificates and lack clinical detail. One case died at delivery and also lacks adequate clinical data. Two of the deaths were associated with severe hypertension and congestive heart failure with the occlusion occurring in the thirtieth and thirty-second weeks of of their pregnancy. The added circulatory load of pregnancy at this time undoubtedly contributed to the heart failure. The last patient died of a hypertensive cerebral vascular accident and heart failure during the fourth week of her pregnancy. The circulatory load of her pregnancy was negligible at this time.

Coronary Occlusion Followed by Pregnancy

Burwell and Metcalf [22] mentioned a 41 year old female with a weight of 220 lbs. who had a myocardial infarction two years and another one year prior to her pregnancy. The electrocardiogram revealed an old posterior infarct. She had severe angina pectoris with occasional paroxysmal nocturnal dyspnea. She survived an interruption of pregnancy at the end of four months.

Horwitz et al,[23] had a 35 year old patient with a blood pressure of 130/70 who developed an anterior myocardial infarction, had an uncomplicated recovery and became pregnant ten months later. Her course during pregnancy was completely normal and a section was done at term. A roentgenogram and electrocardiogram were completely normal after her pregnancy.

Mendelson[13] reported a 35 year old Negro para II, gr. V, who had a coronary occlusion four days after a right sided thoraco-lumbar sympathectomy for hypertension. She recovered and one month later the left thoraco-lumbar sympathectomy was performed. An electrocardiogram revealed deep inversion of T in V_4. Three years later she became pregnant. The blood pressure was 110/70. She had a normal electrocardiogram. At twenty-two weeks a pelvic examination showed the cervix dilated and the membranes were bulging. These were ruptured and a 550 gm. fetus was delivered. One year later the blood pressure was 150/100, and two years later it was 170/100. She had angina and headaches at this time.

Mendelson[13] also reports the case of Leff. This was a 27 year old primipara with a blood pressure of 120/80. She became pregnant six months after a coronary occlusion and survived a forceps delivery at term.

Klein, Fischl and Shey[24] presented a patient who had an acute coronary occlusion, was placed on Dicumarol and showed progressive clearing of the infarct during the next two years. She became pregnant twenty-nine months after the infarction and delivered normally at term, with pudendal block anesthesia. The electrocardiogram three weeks postpartal revealed an old healed anterior infarction.

Lyons and Lyons[25] reported a 35 year old patient who had an anterior occlusion, was married a year later, subsequently became pregnant and delivered successfully.

The 36 year old patient of Antonius[19] was that cited above, who had an occlusion during the seventh month of pregnancy and delivered a 2 lb. 14 oz. fetus that night. She had a normal delivery without complications one year later.

In 1951, Lauback and Stanisby[26] reviewed 65 obstetrical cardiac cases seen in their clinic in fifteen years. They reported 2 multiparous patients over forty with their first pregnancy since the onset of angina. Both had considerable cardiac enlargement and were functional Class No. 3 prior to pregnancy. The first had an old anterior infarction on electrocardiogram. She developed heart failure in pregnancy but responded to treatment and was delivered at term with low forceps. She died of congestive heart failure one year later. The other patient had increasing angina during pregnancy and an abortion was done. She survived. Two years later she had the same functional capacity and cardiac findings as prior to pregnancy.

There are nine cases in the literature of coronary occlusion in a female followed by pregnancy. The ages vary from 27 to 41 with an average of 35 years. Only one was hypertensive and none were diabetic. Two had spontaneous abortions, 2 had interruption of pregnancy, 1 had a section at term and 4 delivered normally. All of these cases survived the pregnancy.

Case Reports

We wish to report two additional cases of coronary occlusion followed by a successful pregnancy.

Case No. 1—A 39 year old white female, para 1 gr V, was admitted to the T. E. Schumpert Memorial Sanitarium on January 28th, 1954, following an episode of extremely severe precordial pain with radiation to the left arm and hand. There was no radiation to the jaw but it did extend to the right arm. Dyspnea was associated with the pain. Opiates and oxygen were used. An electrocardiogram revealed typical changes indicative of an acute posterior myocardial infarction. She had no complications, remained in the hospital two weeks and was discharged home on bed rest. There was no diabetes.

Six weeks later her electrocardiogram revealed a stable Q_3 and T_3 pattern. She had occasional mild chest pain and numerous episodes of acute anxiety, none of which required hospitalization. Electrocardiograms taken at month-

ly intervals revealed essentially no change.

On May 17th, 1954, she had missed a menstrual period and pregnancy was subsequently confirmed. She had a normal course until late December, 1954, when she developed dyspnea on exertion. The blood pressure was 138/100 and the pulse rate was 84 at this time. There were no rales in the lungs and no enlargement of the liver was noted. Modified bed rest and continued salt restriction were advised. She was not clinically in heart failure. By this time the inverted T_3 had become flat but the Q_3 remained.

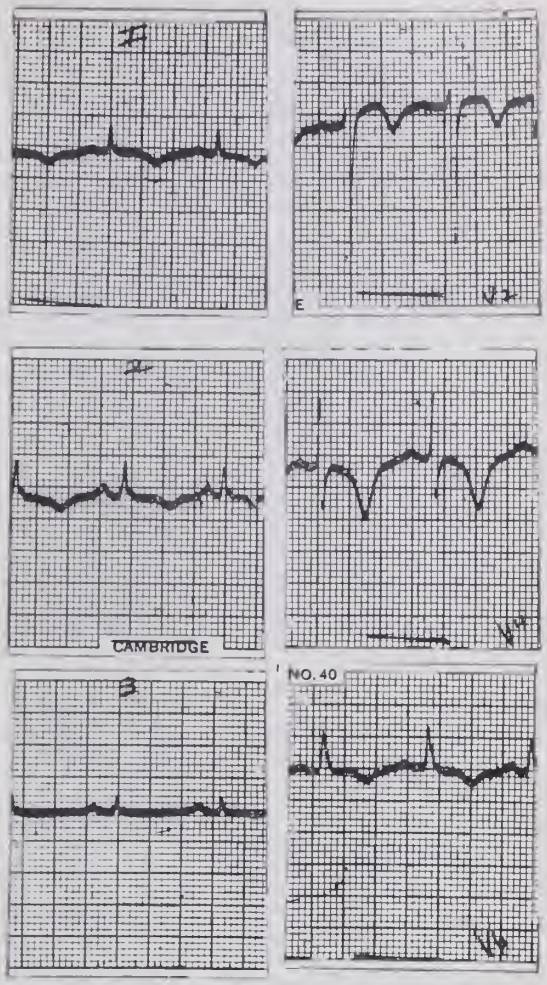
She went into normal labor at term, received Demarol and scopalamine as premedication, and delivered very rapidly. Her postpartal course was satisfactory and she was discharged home in one week. There were no cardiovascular symptoms during labor or in the postpartal period.

Subsequent electrocardiograms taken in 1955, 1957, and 1959, revealed a Q_3 with a flat T_3. The most recent examination on April 9th, 1959, revealed a functionally normal cardiovascular system. She is doing all of her own housework and has no dyspnea, edema, or angina. She carries on a completely normal activity.

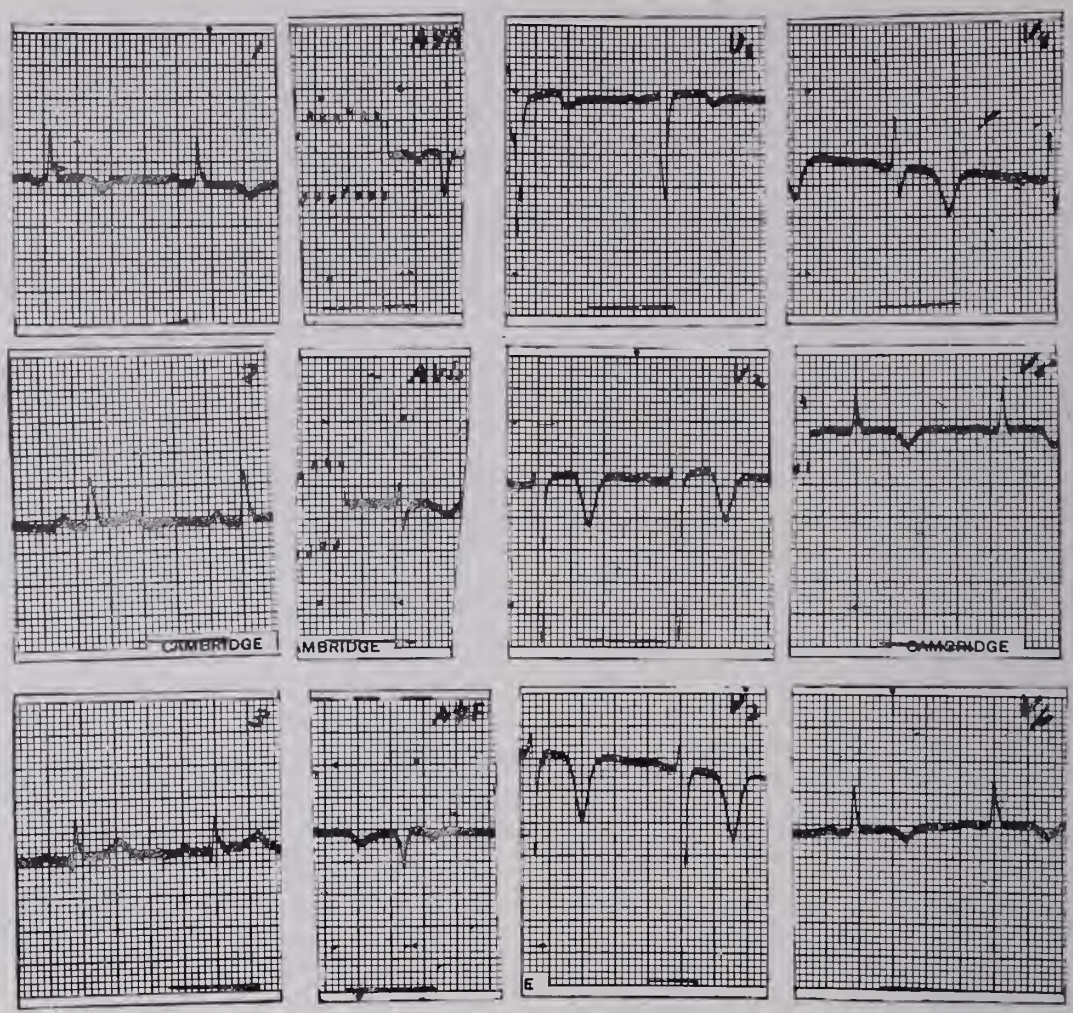
This is a case which illustrates recovery from an acute posterior coronary occlusion followed by a normal pregnancy, labor, and puerperium within one year of her occlusion. She is now living a normal life five and one-half years later.

Case No. 2—This 41 year old white female of Italian descent, gr. IX Para III, entered the T. E. Schumpert Memorial Sanitarium on January 18th, 1957. She stated that she had had several attacks of substernal pain while she had been working around the house the previous week. The attacks occurred during mild exertion but disappeared very rapidly with rest. The morning of admission she had awakened with pain in the lower substernal region which radiated to the left shoulder. She attempted to walk to the bathroom and became extremely weak and passed out. She was seen at home by her physician who found her in mild shock and brought her into the hospital. Past history was irrelevant. Her father died of cerebral hemorrhage at sixty-eight and her mother died following a spontaneous abortion at thirty-two. One brother died of cerebral hemorrhage at forty-two.

Physical examination revealed a rather obese individual, appearing pale, and showing no evident signs of dyspnea. Her pain had been relieved by opiates. The thyroid was not enlarged. Blood pressure was 120/80. Hemogram and urinalysis were normal. VDRL was nonreactive. The blood sugar was 97 mg%.



An electrocardiogram revealed inverted T waves in all the standard leads without ST shifts. (Figure 1) All of the precordial leads showed a marked T wave inversion. She was placed on absolute bed rest, given Peritrate with phenobarbital, and Paveril. A recheck electrocardiogram, on January 23, 1957, showed inverted T_1, flat T_2 and upright T_3. The T waves were still inverted in AVL and from V_2 to V_6. Inversion was not quite so marked as it had been on the electrocardiogram of January 19th, 1957. The temperature became elevated on the second hospital day and remained up to about 100 degrees for four hospital days. After this it returned to normal and remained there. Repeated electrocardiograms on January 28th, 1957, (Figure 2) revealed deep inversion of the precordial T waves, similar to the tracing that was taken on January 19th, 1957. On January 31st, 1957, T_2 became upright but the precordial T waves were still deeply inverted. The patient had substernal pain even at rest for several days. She was allowed to go home on January 31st, 1957, with instructions to remain on modified



bed rest. Roentengram of the chest was completely normal.

One month later she was seen at the office, at which time she complained of pain in the chest, radiating down the left arm with slight exertion. It was relieved by nitroglycerine. She remained on Peritrate and phenobarbital. An electrocardiogram at this time revealed a Flat T in lead 1, upright T in leads 2 and 3 with an inverted T in AVR and AVL. There was also a deep inverted T in V_2 and V_4 with an upright in V_6. There was improvement in the electrocardiogram compared to the one taken approximately one month previously. Marked restriction of activity was continued for another month. A recheck electrocardiogram taken on April 1st, 1957, revealed a low T in V_4 and a definitely upright T in V_6. The T in V_2 was diphasic. By this time she had no more angina on exertion and has not had any since that time.

During the next few weeks the electrocardiogram revealed gradual elevation of the precordial T waves until a completely normal tracing was obtained in September, 1957.

The patient had her last menstrual period in April, 1957, and felt that she was starting menopause. However, examination revealed a pregnancy. There was no edema of the legs or dyspnea. The blood pressure was 130/80. The heart was normal in size and the electrocardiogram was normal.

By December 5th, 1957, she had gained ten pounds and there was wheezing at the bases and mild shortness of breath. Roentgenogram revealed the heart size to be within the upper limits of normal with bilateral hilar enlargement and increased pulmonary markings suggestive of passive vascular congestion. The electrocardiogram was still unchanged.

She was placed on digitalis and Diamox and put to bed for two weeks. By December 20th, 1957, she was much improved. There were still a few rales in the lungs and mild shortness of breath with coughing on exertion. She continued to take digitalis and Diamox. The electrocardiogram again showed no changes. She remained on absolute bed rest from December, 5th, 1957, until she was hospitalized for delivery.

Blood pressure on January 3rd, 1958, was 110/80. She had been given mercurial diuretics because rales were present at the bases of the lungs and because of continued tachycardia on exertion. She was symptom free on January 16th, 1958, but remained in bed until she was hospitalized on January 31st, 1958. The blood count and urinalysis were normal.

Uterine contractions started on February 1st, 1958, and shortly after that the patient developed profuse vaginal bleeding. A diagnosis of partial premature separation of the placenta was made and an emergency Cesarean section was performed using ether anesthesia. She received two pints of blood. A female infant was delivered. There were no postoperative complications except for a temperature of 100 degrees on the second day which returned to normal on the following day. The patient ambulated and returned home on February 8th, 1958, and was advised to rest for one month postpartally.

She was again seen on December 28th, 1958, at which time her weight was 208 lbs. and her blood pressure was 140/80. The electrocardiogram was completely normal. The blood sugar was 84 mg% and cholesterol was 200 mg%. She continued to take digitalis and Diamox for one month postpartally.

When last examined on December 31st, 1958, the patient stated she was doing her own cleaning, cooking, and housework around the plantation and was able to do a part of her yard work. There was no substernal pain, dyspnea, or cough.

Physical examination revealed an obese individual, 5 feet 6 inches, weight 220 lbs. Blood pressure was 130/90. The thyroid was palpable, but not tender. The heart was regular with a rate of 90. She had a 1 plus cystocele. The cervix was normal and the uterus was slightly enlarged. There was no edema of the legs.

Blood sugar was 84 mg%, BUN 11.8 mg% and cholesterol was 179.9%. Urinalysis and hemogram were normal and an electrocardiogram was within normal liimts. She has remained symptom free.

This case illustrates findings of acute myocardial infarction with ischemia and angina pectoris which persisted for several months. Pregnancy occured five month after the onset of the initial symptoms. She was asymptomatic until the seventh month when at the peak of the circulatory load, she developed mild congestive heart failure. This responded to digitalis, diuretics, and bed rest. She remained at bed rest during the last two months of her pregnancy. Cesarean section was done for the obstetrical indication of premature placental separation. In spite of the added burden of the section, this patient had no further cardiac symptoms. She is now living a normal life two and one-half years after her initial cardiac symptoms and one and one-half years after delivery.

Management

The management of the pregnant patient who has indications of having suffered a previous coronary occlusion requires close cooperation between the obstetrician and the cardiologist. The patient should have a careful cardiac evaluation and the functional capacity should be determined. After this is done, the problem should be thoroughly discussed with the patient. She should be reassured that even though the combination of pregnancy following a coronary occlusion is unusual, the majority have a normal delivery. Furthermore, she should be told that her heart will probably have the same functional capacity after delivery as it had before pregnancy. She should be advised to get adequate rest and to avoid excessively fatiguing housework or other outside activities. A low sodium diet is required and a minimum of weight gain is allowed. By all means, the patient should be seen often and be given frequent reassurance.

Congestive heart failure is the most common complication. If signs of rapid weight gain, excessive fatigue, progressive dyspnea, enlargement of the liver or rales in the bases develop, a diagnosis of early failure should be made. The patient should be placed on absolute bed rest and given diuretics, a salt free diet, and digitalis. This regime should be continued until compensation is complete or until delivery. Modified activity may be allowed with continuation of the medication when compensation occurs.

A coronary occlusion occurring during pregnancy should be treated as any other occlusion, with oxygen, opiates, bed rest, and efforts to combat shock. Premature delivery or spontaneous abortion may develop because of the shock. Since the circulatory load is the greatest at the begin-

ning of the third trimester, congestive heart failure is most likely to occur if the occlusion occurs at this time. The failure should be treated with the routine measures. The duration of bed rest will depend on the size of the infarct and the amount of the circulatory load of pregnancy. It should be remembered that a heart can recover from a coronary occlusion during pregnancy and enable the patient to go through a successful delivery without any permanent heart damage.

Anticoagulants may be used if indicated. However, they should be used with caution. It has been shown that Dicumarol affects the prothrombin level of the infant to a much greater extent than that of the mother [27] and fatal hemorrhage may occur in the fetus.[28] Prothrombin levels should not exceed twice normal. Anticoagulants should be stopped before the expected date of delivery and vitamin K_1 given to bring the prothrombin level to normal.

A patient who has residual angina pectoris after an occlusion should be given a month or two of absolute bed rest, with low salt intake, coronary dilators, and oral diuretics. Modified activity may be allowed when the angina disappears.

Since most of the deaths are associated with hypertension, this complication should be treated with all available drugs.

Interruption of pregnancy is not indicated. This is more traumatic than allowing the patient to go to term and deliver normally. Cesarean section is not advised except for obstetrical indications. Since the blood volume becomes lower and the load on the heart is less the closer the patient is to term, labor should be allowed to proceed spontaneously. Adequate sedation and careful reassurance by the attending physician are essential.

The second stage of labor should be shortened as much as possible with the aid of low forceps.

The choice of anesthesia will depend upon the cardiovascular status of the patient. Local or pudendal block is usually preferable. Continuous spinal anesthesia relieves the load on the heart by pooling blood in the legs and abdomen. Since shock may occur with this procedure it should be used with care. Ether may be used in some cases. Oxytoxics may be dangerous and should be used with extreme caution. Bed rest should be continued for two to four weeks postpartally, depending on the functional capacity of the heart. If failure has occurred, digitalis and diuretics should be continued until they are no longer needed. After compensation and adequate rest, the patient's progress should be followed just as closely as that of any other patient with a coronary occlusion.

Summary

The literature on coronary occlusion preceding or occurring during pregnancy is reviewed.

Two additional cases of successfully completed pregnancy occurring several month after a coronary occlusion are presented.

It has been shown that the heart can recover from a myocardial infarction, enable a patient to carry a subsequent pregnancy to term, and have a normal functional capacity after delivery.

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Discussion

Dr. Homer J. Dupuy (New Orleans): Coronary heart disease occurring before, during, or immediately after pregnancy, though rare, imposes a situation of concern to the obstetrician and the internist. Dr. Holoubek's presentation of these two cases, his review of the literature and his discussion of the management are very reassuring notwithstanding the gravity of the situation. Dr. Holoubek has covered cases of coronary thrombosis occurring before and during pregnancy. In reviewing some of the literature I found a case report I thought would be of interest while on the subject of coronary thrombosis of pregnancy.

Vesicka and Lin in the American Journal of Obstetrics & Gynecology, April 1959, report a case of fatal coronary occlusion in a 21-year-old patient on the fourth postpartum day. They state that there are no reports in the literature as far as they know of documented coronary occlusion during the early postpartum period. This patient was not known to have had heart disease or arterial hypertension and had no symptoms relative to the cardiovascular system. She suddenly collapsed on the fourth postpartum day, went into shock, and died within three minutes. An autopsy was done. Pathological diagnosis was arteriosclerosis with marked stenosis of descending branch of left coronary artery; recent subendocardial infarction of the left ventricular and interventricular septum. It is of interest that this patient was asymptomatic during the period when the circulatory load was greatest.

The question of anticoagulant therapy in pregnancy presents a problem. Few cases in the literature have been reported on this subject. The obstetricians recently have had much more experience with these drugs as they are being used by them for phlebothrombosis during pregnancy. Blum and Barre point out that the use of anticoagulants during pregnancy carries serious risks. They further point out that cases of fatal hemorrhages to fetus, placental hemorrhages, intrahepatic hemorrhage and other bleeding tendencies may occur. The obstetricians, however, use the anticoagulants usually for short periods averaging five to twenty days. One was reported as long as fifty-two days.

Since the experience of the internists is so limited in the number of cases available for anticoagulation therapy evaluation during pregnancy, we must lean on the experience of the obstetricians for their use of the drug in phlebothrombisis. Ullery summarized the cases in the literature of 1933 to 1953. Among 135 cases of phlebothrombosis during pregnancy in which no anticoagulant therapy was given there was 18 pulmonary emboli with 15 deaths. Among 38 patients who received anticoagulants no fatal embolism occurred, and no ill effects to mother or to the fetus were noted from anticoagulants in the two groups. One objective in using anticoagulant therapy in pregnant women with coronary thrombosis would be to prevent fatal pulmonary emboli. In 40 collected cases reported by Blum and Barre in which anticoagulants were used during pregnancy, the fetal loss associated with Dicumarol occurred in 3 cases. Withholding anticoagulants, however, does not eliminate this danger in phlebothrombosis as one fetal death occurred as a complication of phlebothrombosis before anticoagulants were started.

They pointed out their experience was far too meager to permit even tentative conclusions, yet their impression was that Heparin offered a safer means of control than Dicumarol.

In view of the rarity of coronary thrombosis before or during pregnancy the advisability of anticoagulation therapy with its hazards, particularly to the fetus, will depend on further observation on accumulated cases.

In closing I would like to compliment Dr. Holoubek and his group on a most interesting paper, for only by such efforts as Dr. Holoubek's group will our knowledge of this rare condition and its management be clarified.

Cesarean Total Hysterectomy*

• In the presence of strong indications for removal of the uterus should hysterectomy be performed at the time of cesarean section? Are the complications of this procedure greater? Is there more danger of neonatal mortality?

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RECENT reports [1-6] indicate increasing interest in the desirability of performance of total hysterectomy at the time of cesarean section in indicated cases. Subtotal hysterectomy at cesarean section has been performed for a number of years and is generally accepted by obstetricians and gynecologists, but there are still some who question the validity of *total* hysterectomy at cesarean section. We believe that this operation, when performed under the proper circumstances, deserves greater popularity than it now enjoys.

Since January 1, 1946, whenever removal of the uterus was considered indicated at the time of cesarean section, we have performed total hysterectomy. Experience with cesarean total hysterectomy in 72 patients seen at the Ochsner Clinic during the ensuing thirteen years has convinced us not only of its safety but also of the desirability of its performance in indicated cases. We have noted that the uterus that has been subjected to cesarean section with tubal ligation or salpingectomy is liable to cause troublesome symptoms eventually, such as menstrual irregularities, hypermenorrhea, polymenorrhea, dysmenorrhea, pelvic pain and dyspareunia.

Weed [7] recently analyzed the fate of the post-cesarean uterus in 402 patients treated at the Ochsner Clinic. He noted that the incidence of functional menstrual bleeding and adenomyosis is unduly high in women who have had cesarean sections. In 27.7 per cent of the patients in his series hysterectomy was ultimately necessary. In most of these, symptoms could be attributed to extensive postoperative adhesions with resultant fixation of abdominal contents to the uterus or adnexa, or fixation of the uterus to the lateral or anterior abdominal walls. This results in disturbed adnexal function, failure of the uterus to involute, or both. By removal of the uterus at the time of cesarean section, development of such symptoms can be prevented.

Poidevin and Bockner [8] recently published an interesting radiographic study of 43 women who had had cesarean sections. Various degrees of uterine deformities were visualized in the anteroposterior and lateral uterosalpingograms in all 43 patients.

During the period of the present study we [9] performed hysterectomies on 101 women who had had one or more previous cesarean sections with or without tubal sterilization. The indications for removal of the uterus were prolonged uterine bleeding with or without other troublesome pelvic symptoms caused by pathologic processes, such as large fibroids and endometriosis, and in 2 women, uterine cancer. In some of these patients, the condition of the uterus was due to faulty operative technic at the time of cesarean section. There is no doubt that some of these women would not have required subsequent hysterectomy if a low flap type of cesarean section had been performed,

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with minimal disturbance of the tubes at ligation and without bilateral salpingectomy. However, a great number of these patients did have properly performed cesarean sections, and still came back later with conditions that necessitated removal of the uterus. If hysterectomy had been done at the time of cesarean section, they would have been spared another major operation.

Indications

The indications for cesarean hysterectomy may be classified into two groups. One group includes patients with definite pathologic conditions, such as uterine fibroids or significantly abnormal bleeding. The other includes patients with a history of multiple cesarean sections who request sterilization.

If, during the prenatal period, the patient expresses a desire for sterilization at the time of section, the problem is discussed thoroughly with her and her husband. The question of hysterectomy versus tubal ligation is then considered. This preoperative discussion regarding hysterectomy is just as important in the pregnant patient as it is in nonpregnant women. The physiology and function of the pelvic organs are explained and any fears and misapprehensions, especially about sexual problems, are allayed. Postoperative study of women who had a clear understanding of these matters preoperatively has revealed absence of functional libido problems.

If cesarean section has been carefully performed, the condition of the scar should rarely be an indication for removal of the uterus at a subsequent cesarean section. Although we would be sympathetic with the patient who insists upon sterilization after multiple cesarean sections, we would make it clear in the patient's record that the indication for hysterectomy was the patient's request for sterilization and not a supposedly inadequate cesarean scar. In the patient with strong religious convictions against sterilization we would not use the excuse of a faulty scar as the reason for accomplishing sterilization by hysterectomy.

The primary indications in our 72 patients are listed in tables 1 and 2. Many of these women had more than one indication. Fifty of the 72 were undergoing repeat cesarean section, 31 of whom were having their third, fourth or fifth.

TABLE 1
INDICATIONS FOR CESAREAN HYSTERECTOMY IN 72 WOMEN

Indication		Cases
First Section		22
Patients requesting sterilization	21	
Parity—3 or more (average age 35 years)	18	
Hypermenorrhea and polymenorrhea	9	
Fibroids	4	
Placenta previa	3	
Recurrent progressive hypertension and toxemia	3	
Stenosis of cervix after conization or amputation	2	
Abruptio placenta	1	
Rh sensitivity with rising antibody	1	
Large dermoid cyst of ovary	1	
Cancer of sigmoid	1	
Previous extensive myomectomy	1	
Previous cesarean sections		50
2nd section	19	
3rd section	22	
4th section	7	
5th section	2	
Total		72

TABLE 2
INDICATIONS IN 19 PATIENTS HAVING THEIR SECOND SECTION

Indication	Cases
Patients requesting sterilization	19
Parity—3 or more (average age 36 years)	14
Hypermenorrhea and polymenorrhea	10
Fibroids	5
Recurrent progressive toxemia	3
Chronic nephritis with renal stones	1
Tuberculosis	1
Severe asthma	1
Endometriosis	1
Coarctation of aorta with hypertension	1

Twenty-two patients in this series had not had previous cesarean sections. Their average age was 35 years and 18 (82 per cent) had three or more children. Twenty-one of the 22 requested sterilization at the completion of their pregnancy, the one exception being an unmarried, mentally retarded, illegitimately pregnant woman in whom cancer of the sigmoid was discovered in the sixth month of her preg-

nancy. In 17 of the 22 patients cesarean section was necessary for obstetrical reasons and the hysterectomy was performed as an elective sterilization procedure. In 5 patients the necessity of a subsequent hysterectomy was evident because of abnormal bleeding and uterine disease, and, in order to obviate a second period of hospitalization and convalescence, an elective cesarean hysterectomy was performed. We have had no reason to regret this decision.

Technic

The technic for cesarean total hysterectomy employed in the present series differs little from that for standard abdominal hysterectomy. The anesthetic of choice is spinal. Of the 72 patients in this series, 67 had spinal anesthetics and 5 general.

When the abdomen is opened, the bladder flap is usually more easily handled than it is in the nonpregnant state, although dense adhesions to the bladder from previous scars may prolong the dissection in some instances.

Either a transverse or longitudinal incision is made in the fundus, depending upon the surgeon's preference and the degree of scarring. The baby and placenta are delivered. Pitocin may be injected into the uterus after the baby is delivered to facilitate placental removal and uterine contraction. A chromic I running suture closes the uterine incision and aids in obtaining maximum hemostasis. With effective uterine contraction, a significant amount of blood may be diverted back into the circulation from the uterine fundus.

The round, utero-ovarian, and broad ligaments are clamped close to the uterus, cut and tied. After the uterus is firmly contracted, the uterine vessels are clamped, cut and tied. The cardinal ligaments and uterosacral ligaments are usually cut and ligated separately. The vagina is opened posteriorly just below the cervix and the entire uterus is removed. The vaginal vault is closed with a continuous catgut suture. The round and uterosacral ligaments are incorporated into the angles of the vault to insure adequate support. Peritonealization is easily accomplished with the usually generous bladder flap of peritoneum. The abdomen is closed in layers with interrupted cotton sutures.

The operating time is not substantially increased by removal of the uterus at the time of cesarean section. The average duration of operation from incision to complete closure in the 72 patients was 80 minutes.

Despite greatly increased vascularity of all tissue in pregnancy, excessive bleeding during operation was not a problem in our patients. Forty of the 72 patients required no blood, 28 received only one pint of blood during or after operation, and only 3 received more than one pint. Ambulation on the first postoperative day is the rule.

Postoperative Complications

The incidence of postoperative complications of cesarean hysterectomy is no greater than that after cesarean section alone or hysterectomy in nonpregnant women. The routine use of a recovery room adjacent to the operating room during the immediate postoperative period has contributed greatly to reduction in the early postoperative complications.

O'Connor [10] stated that convalescence after hysterectomy is usually smoother than after cesarean section alone, and in a personal communication to Siegel [11] Davis reported no deaths in more than 200 cesarean total hysterectomies performed at the Chicago Lying-In Hospital and a morbidity rate as low or lower than in patients having low or classical cesarean section. In two recent reports of 97 cases [5] and 65 cases [6] there were no deaths and the morbidity rates were 16.5 per cent and 4.6 per cent, respectively.

In the present series only 4 patients had fever of 100.4° F. or more on two or more days, a morbidity rate of 5.5 per cent. In 2 of these 4 patients, fever was due to mild urinary infection. The other 2 had relatively major complications. One re-

quired reoperation shortly after cesarean hysterectomy because of a bleeding broad ligament vessel. In the other, thrombosis developed in the right ovarian vein postoperatively with episodes of pulmonary infarction necessitating vena cava ligation on the sixth postoperative day. In both patients subsequent convalescence was normal. There were no injuries or other complications of the urinary or intestinal tract and there were no deaths.

Neonatal Mortality

It is most important, in the planning of elective cesarean hysterectomy as in any cesarean section, to guard against premature delivery of the fetus. We believe that sterile palpation of the cervix at intervals in the last month of pregnancy can be of considerable value in determining complete fetal maturity. When this is added to other estimations of fetal maturity, such as roentgenographic evidence and date of fetal movement, the chance of premature delivery should be minimal.

There were no fetal deaths in our series attributable to the operation itself. Two babies died of prematurity, however, because of early operation. One was done as an emergency because of the onset of premature labor in a patient scheduled for a repeat section; the other was done electively at seven months because of discovery in the patient of cancer of the sigmoid. Two other fetal deaths were due to severe Rh incompatibility, one an intrauterine death and the other an early neonatal death due to severe erythroblastosis.

Results

This group of patients has been carefully followed, some for as long as ten years. These women have repeatedly expressed to us their complete satisfaction with the results of the operation. We know of no emotional conflicts that have arisen in these patients as a result of removal of the uterus. There has been no evidence of premature ovarian failure as a result of the operation. Repeated examinations have failed to disclose any enlarged adnexa. All patients have had normal and well supported vaginas. No incisional hernias have developed postoperatively. No patient has complained of dyspareunia who did not mention it as a complaint preoperatively.

Conclusions

Experience with cesarean total hysterectomy in 72 private patients seen at the Ochsner Clinic since January 1, 1946, has convinced us not only of its safety but also of the desirability of its performance in indicated cases. The mortality and morbidity rates are no greater than after cesarean section or hysterectomy alone. As a prophylactic procedure it insures prevention of development of serious disease in an aging and usually no longer useful organ. As a therapeutic procedure it corrects pathologic conditions by eliminating a diseased and degenerating organ. Finally, as a means of sterilization it is the most certain method. In the words of Davis [1] "it is a logical advance in modern obstetric surgery."

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Discussion

Dr. F. S. Oser, Jr. (New Orleans): To paraphrase the words of Dr. M. Edward Davis—Complete cesarean hysterectomy is a most logical and necessary advance in modern obstetric surgery, and the paper presented by Dr. Schneider and Dr. Tyrone is certainly most timely. Modern

advances in anesthesia, blood replacement, chemotherapeutic agent, antibodies, surgical skill and obstetric judgment should make this formidable procedure a must in the armamentarium of the trained obstetrician and gynecologist.

Albeit cesarean total hysterectomy is a logical advance in obstetrics, there are certain indications to be fulfilled. Since cesarean hysterectomy, undoubtedly is the procedure of choice. As present for both procedures. The indication for cesarean section should be valid, primarily, and if so there should be an acceptable indication for the hysterectomy.

Whenever the aforementioned indications are met with, cesarean section, with total hysterectomy, undoubtly is the procedure of choice. As has been stated by the authors and substantiated by the literature, the procedure is not much longer, nor, more difficult than cesarean section alone. In spite of the increased vascularity and longer pedicles, the authors and other trained obstetric surgeons have reported morbidity and mortality figures comparable to cesarean section alone.

Notwithstanding the fact that the total procedure does not increase the morbidity or mortality, sterilization per se should never be an indication for cesarean section, nor should the eventuality of subsequent surgery alone (economic factors, etc.) be a legitimate indication. Although the combined procedure has a very low mortality; it unquestionably has a higher mortality than vaginal delivery per se. In the event corrective surgery may be necessary in the future, healing properties of tissue and the general condition of the patient at a later date would insure more permanent results. The authors stress an important factor in the physiologic preparation of the patient and her husband, whenever there is the possibility of cesarean section hysterectomy, either because of definite uterine pathology or the possibility of "Section Saturation Point".

Current literature substantiates the authors' philosophy that salpingectomy may cause subsequent trouble—some symptoms, often necessitating hysterectomy. Just what the etiology of the uterine dysfunction is, is not clear; however most authors report from 30 to 40 per cent uterine dysfunction following salpingectomy.

All recent reports agree with the authors that where cesarean section hysterectomy is indicated, the total procedure is a safe and a definitive operation. The authors are to be congratulated for a comprehensive study of this timely subject.

Medical Convention
New Orleans, March 20, 1849.

Agreeably to previous notice the Medical Convention of the resident licensed Physicians of the State of Louisiana, met at the Medical College of this place, at 12 o'clock noon; when on motion of Dr. Piernas, of New Orleans, Professor James Jones was called to the Chair; and on motion of Dr. Thomas Hunt, Dr. Dalton was appointed Secretary.

The Convention being organized, Dr. Hunt rose and with great force and pertinency, urged the postponement of the Convention until December next; and concluded by offering the following resolution, viz:

Resolved, That a Medical Convention of all the resident licensed physicians of the State of Louisiana, be invited to assemble in the hall of the Medical College of the State, on the first Monday of December, 1849.

Resolved, That the President and Secretary of this meeting be authorized to give due notice of the adjourned meeting of the Convention in the Medical Journal of this place and newspapers of the State.

Which, on motion, were unanimously adopted.

The attention of the medical gentlemen residing in this State is earnestly called to the above resolutions. And as business of paramount importance will be transacted, it is hoped, believed, that the Convention to meet in this place next December, will be numerously attended by the resident physicians from every part of the State.

New Orleans M. & S. J. 5:798 (May) 1849.

Complications and Sequelae of Hydatidiform Mole*

• In 146,000 live births in three hospitals there were 65 cases of hydatidiform moles. From the study of this series, the authors draw several interesting conclusions.

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IN the medical management of the patient with hydatidiform mole the estimate of probabilities of serious as well as mild sequelae plays a most important role. While in most instances the gestation terminates itself in abortion the clinician is faced with the task of planning additional measures of treatment. It is for the purpose of providing facts for estimates of these chances of later trouble that the following study was conducted.

Material

Case histories of patients with molar pregnancy were available from two sources: Charity Hospital at New Orleans, serving indigents in South Louisiana, and the Baton Rouge Pelvic Tumor Registry comprising records of private patients treated in two exclusively private hospitals in Baton Rouge. From the former all instances of disease occurring between July 1, 1948, and June 30, 1958, were analyzed, while complete consecutive records were available from January 1, 1951, through December 31, 1957, in the Tumor Registry. At Charity Hospital there were 49 molar pregnancies in the observation period. Live births at the hospital numbered 115,384 in the same interval. From the Pelvic Tumor Registry 16 instances of mole were studied. Live births at the Baton Rouge hospitals in the years 1951 to 1957, inclusive, totalled 30,540. There were, then, 65 hydatidiform moles occurring in the same interval in which there were 146,000 live births in the three hospitals. The two groups of patients are from the opposite ends of the economic and social scale, and so are not completely comparable with each other. Together, however, the entire number should represent a cross-section of the population of this area. As more meaningful conclusions can be drawn from larger numbers, all of these patients will be considered together.

Observations

Table 1 lists the complications and sequelae found in all 65 molar gestations. In many instances there was more than one difficulty, but it is obvious that complications are frequent with this disease.

1. **Molar abortion:** The fate of every molar pregnancy is abortion about the eighteenth week if not evacuated sooner

TABLE 1
COMPLICATIONS AND SEQUELAE OF HYDATIDIFORM MOLE

	Ward	Private
Abortion	42	9
Bleeding	47	13
Toxemia	14	2
Sepsis	7	2
Recurrent Bleeding	11	5
Residual Molar Tissue	8	0
Invasive Mole	3	1
Choriocarcinoma	4	0

* Presented at the Seventy-ninth Annual Meeting of the Louisiana State Medical Society, May 6, 1959, in New Orleans.

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From the Walter E. Levy, Jr., Memorial Laboratory for Gynecological Pathology.

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operatively. Because of this fact it may not be correct to refer to molar abortion as a complication. However, abortion itself is surrounded by its own series of complications and cannot therefore be looked upon as a normal phenomenon. In this group 51 patients had molar abortion. In 14 instances diagnosis was made in time to remove the mole by operative procedure.

2. **Bleeding as an initial symptom:** Almost all patients had bleeding before treatment. Time of onset of bleeding was predominantly early. Bleeding before the sixth week occurred in 10, seventh week in 8, eighth week in 7, and before the tenth week in 36. Bleeding of a severity requiring transfusion is known to have occurred in 30 patients. This number is probably less than the actual number of patients receiving blood transfusion. This complication often influences treatment, as severe bleeding demands evacuation of the uterus.

3. **Pre-eclamptic toxemia:** Sixteen patients exhibited this syndrome and were admitted to the hospital. Figure 1 graphically depicts the course of one patient with severe toxemia. The symptoms, course, and prognosis of toxemia in molar pregnancy are comparable with those in normal gestation. It will be noted that, in all, 25 per cent of the patients with molar gestation showed evidence of toxemia. This is much higher than the incidence among Charity Hospital obstetrical clinic patients (17 per cent) and possibly 20 times that in private patients. It can be said, then, that molar pregnancy predisposes to the development of pre-eclampsia.

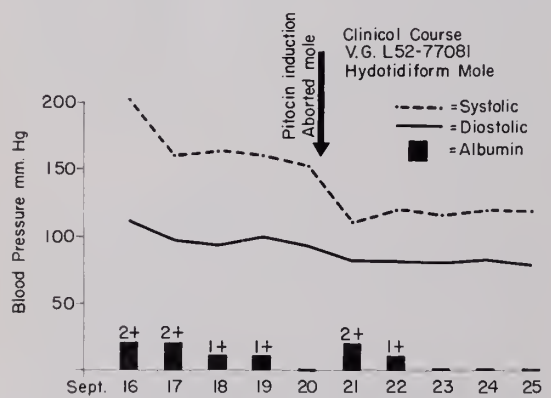


Figure 1. Daily blood pressure and urine albumin determinations in the case of hydatidiform mole complicated by pre-eclampsia.

4. **Sepsis:** Using the arbitrary rule of temperature of 100.4°, or more, on two observations before treatment as indicating uterine sepsis (other obvious causes of fever being ruled out by appropriate examinations) we found 9 patients in this category. When sepsis was present it usually was the reason which led the patient to seek aid. In all 9 of these patients there was associated bleeding, a factor probably responsible for the initiation of the infection. In no instances did the infection lead to lasting residual, either abscess or inflammatory disease requiring surgical treatment. It did, however, complicate treatment of the molar pregnancy by delaying curettage.

5. **Recurring bleeding:** After initial definitive treatment there was recurrence of bleeding in 16 cases. This is usually regarded as a sign of residual or recurrent mole or of malignant change in trophoblast left behind in the uterus. For this development, 10 patients had a second curettement while 10 of the 16 ultimately were managed by hysterectomy. Discussion of the significant histologic findings at time of hysterectomy will be presented later.

6. **Residual molar tissue persisting after first definitive treatment:** We were unable to define a practical difference between residual molar tissue and recurrent growth of a mole (further proliferation from viable residual tissue). There is evidence to believe that both of these eventualities do happen, but it could not be determined from the records in most instances which had occurred. If the tissue removed by a second curettage showed degeneration of the degree found, for example, in incomplete abortion, one would judge that it represented left-overs from the previous mole. This should be labelled residual or retained molar products of gestation.

Regrowth of intrauterine, noninvasive mole resulting in a state resembling repeat gestation did not occur among our

patients, but has been described by others (Coppleson, 1958).

7. **Invasive mole**: From a study of the examples of this entity in our material a typical sequence of events is noted in patients having an invasive mole. First there is molar gestation ending in abortion of the mole. The uterus is cleaned by curettage. In a few weeks' time there is recurrence of bleeding which is managed initially by a repeat curettage. The finding of viable as opposed to degenerating trophoblastic remnants and hydropic villi, together with a persistence of chorionic gonadotropin in the urine, is indicative of invasive mole.

Case Reports

Illustrative case history No. 1: V. B., 33 year old colored female, was admitted to the Delivery Unit January 4, 1957, complaining of recurrent nausea and vomiting for three months and epigastric pains for one day. Her last menstrual period was said to have been ten weeks earlier and there was one day of spotting during the sixth week of amennorrhea. She was noted to have a mild hypertension and trace of albuminuria. The uterus was the size of eighteen weeks' gestation.

Shortly after admission an abdominal crisis developed which was found to be due to sickle cell disease.

On January 25, 1957, she began bleeding and passed a hydatidiform mole. She was given whole blood transfusion the fourth postabortal day when a dilatation and curettage was performed.

During subsequent follow-up studies over the next eight months, the patient was found to have persistently positive urinary chorionic gonadotropin (frog) tests after an initial negative test six weeks following D & C. At the end of nine months the patient was readmitted for hysterectomy. A nodule in the left infundibulopelvic ligament was excised and found to contain a large hydropic villus. (Figure 2b). X-rays demonstrated multiple lung metastases. (Figure 3).

Re-examination and x-rays demonstrated that the pulmonary lesions had regressed by three months postoperatively. Urine chorionic gonadotropin tests were negative.

Five months postoperatively and fourteen months after abortion of the mole, a vaginal nodule was discovered and excised. Microscopic examination revealed hyalinized molar villi.

Seven months after hysterectomy and sixteen months after abortion of the mole, all evidence of disease was gone. The patient was last seen eleven months after hysterectomy and was alive and well with no evidence of disease.

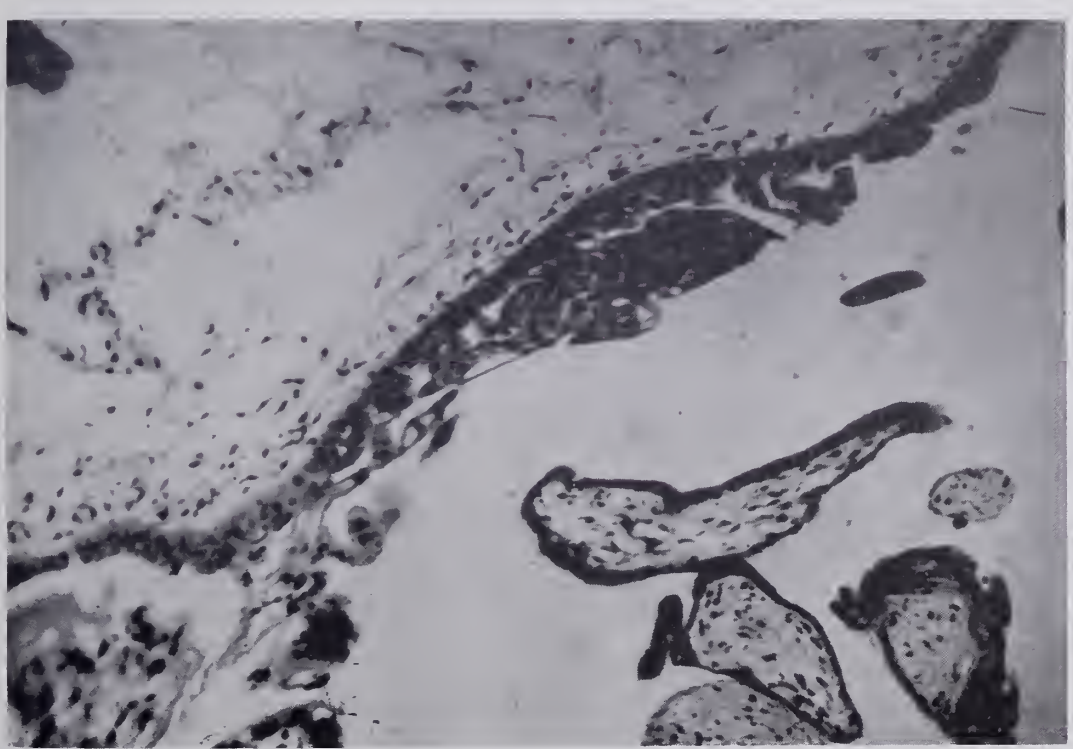


Figure 2a. Proliferated trophoblast, hydropic villi and normal villi of hydatidiform mole in Case No. 1.

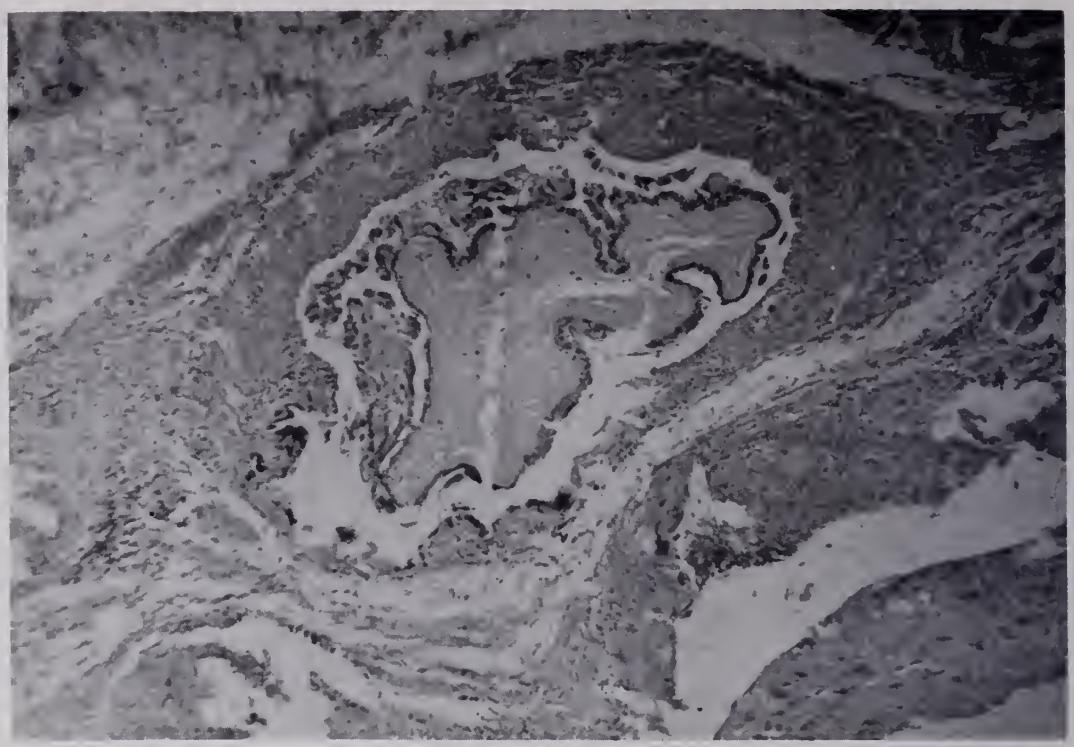


Figure 2b. Section through ovarian vein showing molar villus within lumen.



Figure 3. Metastatic lesions in lungs, Case No. 1.

That invasive mole is not always a benign disease is exemplified by the following patient.

Illustrative case history No. 2: M. M., 38 year old colored female, was admitted on April 10, 1954, for control of severe pre-eclampsia manifested by a blood pressure of 180/110, albuminuria 4 plus and pedal edema 2 plus. Her last menstrual period was five months prior. The uterus was estimated at 5½ to 6 months gestational size.

Two weeks after admission a hysterotomy was performed for removal of a molar pregnancy and the endometrium was curetted.

The patient began having vaginal bleeding seven weeks after discharge from the hospital. Pelvic examination revealed that the uterus remained approximately 8 to 10 weeks gestational size. Urine chorionic gonadotropin on July 15, 1954, was reported as positive.

Four months after operation the patient was readmitted for hysterectomy for bleeding and persistence of serum CGT. Sections of the uterus showed invasive mole with highly proliferated trophoblast. (Figure 4).

After hysterectomy urine chorionic gonadotropin remained persistently positive and within six months a pelvic tumor was detected. Pulmonary metastases were demonstrated still later. Treatment measures were palliative only and the patient died of multiple metastases demonstrated to be choriocarcinoma sixteen months after hysterectomy.

Among four patients with proven invasive mole, 3 appear to have been cured by hysterectomy, 1 subsequently had choriocarcinoma.

8. **Choriocarcinoma:** Fear of development of this sequela of molar pregnancy

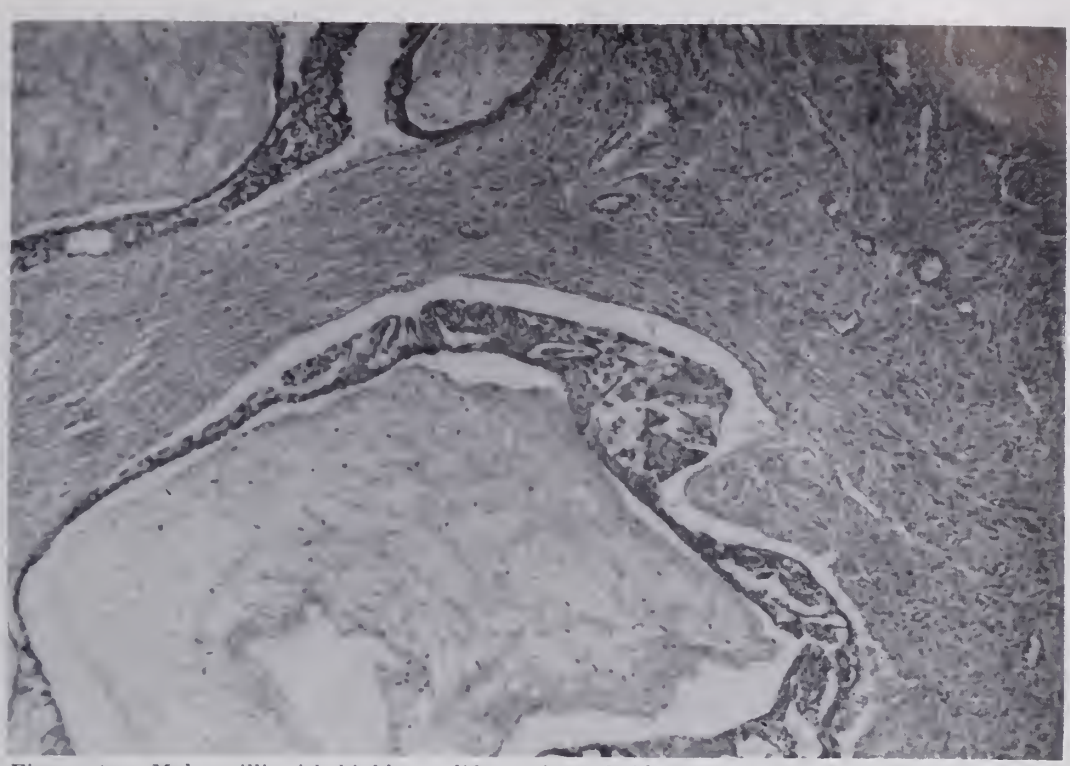


Figure 4a. Molar villi with highly proliferated trophoblast within myometrium, Case No. 2.

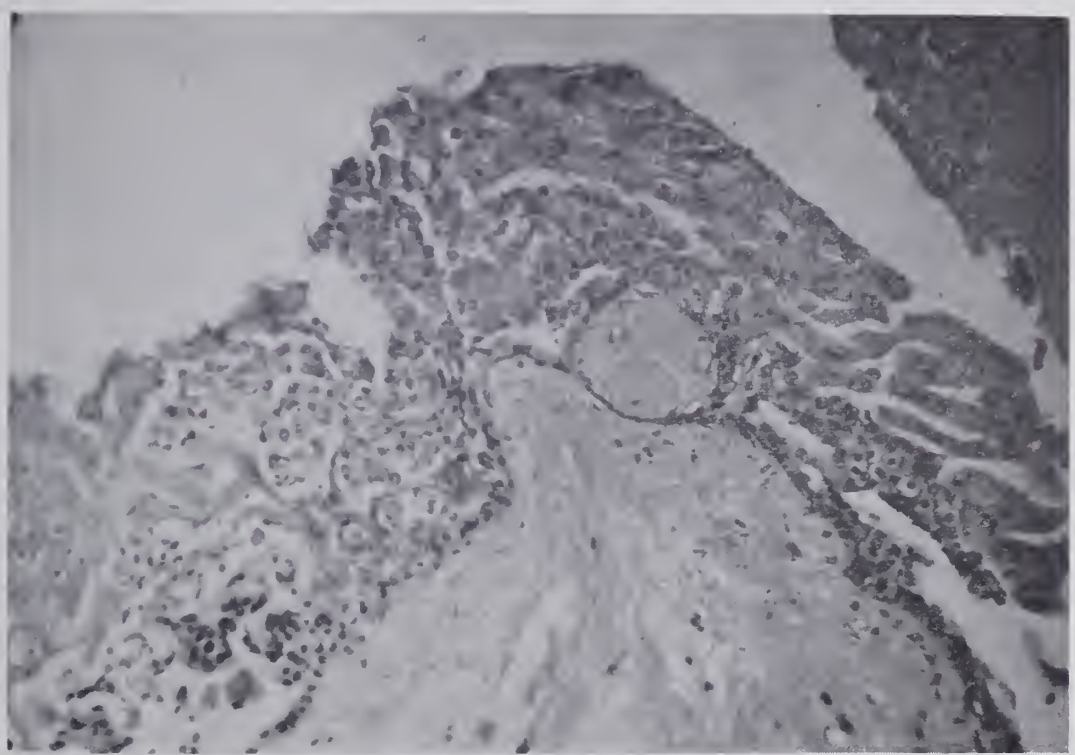


Figure 4b. Proliferation of cytotrophoblast and syncytium of invasive mole, Case No. 2.

is, of course, the principal reason for performing hysterectomy as initial management. Even removal of the uterus at once does not secure the patient against such an eventuality, as choriocarcinoma has been found to develop at extra-pelvic foci

after this type of management (Delfs, 1957). Four choriocarcinomas arose from pre-existing moles in these 65 patients. All four occurred in Charity Hospital patients. The course of choriocarcinoma is usually rapidly progressive to fatal termination within one year or less. That this ending is not invariable is shown by the following case.

Illustrative case history No. 3: S. C., 19 year old colored female, aborted a hydatidiform mole and was treated with curettement. Fourteen months later, after an uneventful pregnancy, she delivered a term pregnancy. Thirty-one months later the patient was seen again for excessive vaginal bleeding. After hospital work-up a curettement proved uterine enlargement to be due to presence of choriocarcinoma. Total abdominal hysterectomy was performed and choriocarcinoma was found in the uterus. (Figure 5). Deep x-ray treatments were administered postoperatively. The patient was last examined eighteen months postoperatively and found to be free of disease, after which she was lost to follow-up.

9. **Deaths from sequelae of hydatidiform mole:** Among the 65 women with molar pregnancy there were 3 deaths, all due to choriocarcinoma. The gross death rate is thus 4.5 per cent.

Discussion

It has been pointed out by Hertig that the hydatidiform mole is not a neoplasm. It is, rather, the product of degeneration brought about by cessation or failure of development of fetal circulation. Neoplastic transformation takes place when the trophoblast undergoes proliferation past a certain point, though it is not always possible, even with microscopic examination to tell just when this change takes place. The nature and pathogenesis of the mole are such that there is a much greater rate of neoplastic change following this than after normal gestations. Some of these sequelae are of serious import. If the only considerations were the comparative mortality of complications and sequelae on the one hand and mortality of immediate hysterectomy operation on the other, the better treatment would be hysterectomy. However, in the maangement of the individual patient it may be desirable to accept a certain risk in order to conserve the hormonal, sexual, and reproductive functions of an intact genital system. The decision of which treatment is best for a given patient will

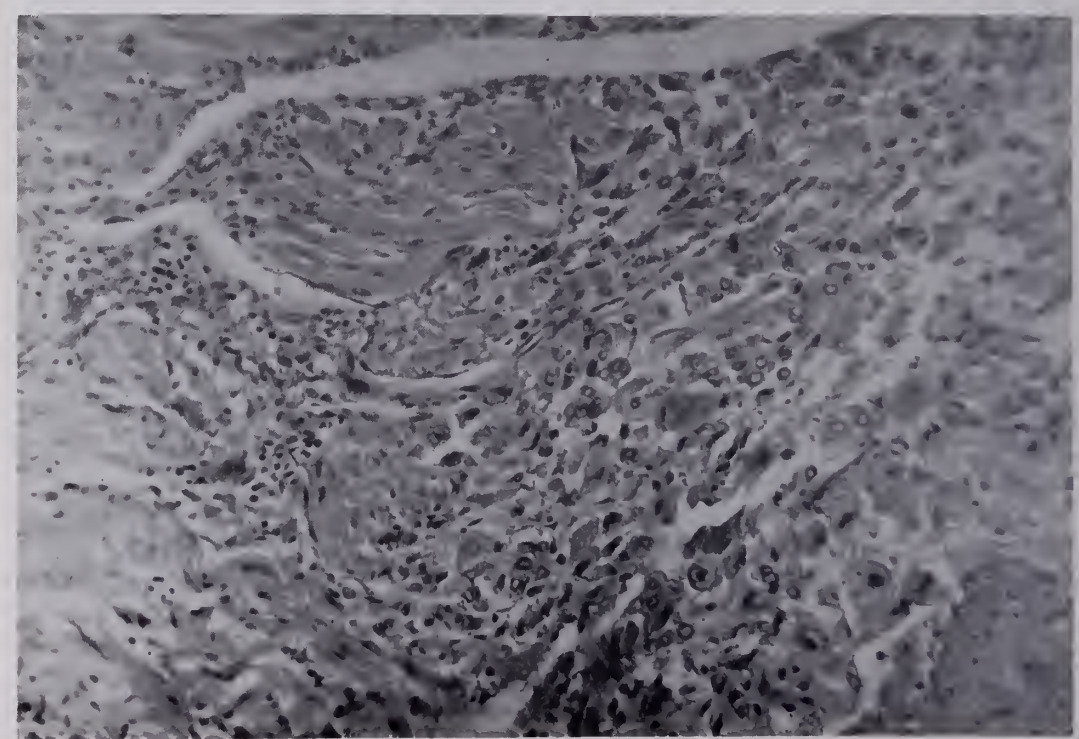


Figure 5. Choriocarcinoma invading myometrium.

be based on a knowledge of the risk involved.

Is there anything in the analysis of the present series which will help in early detection of the unwanted sequela? The symptoms common to all patients who developed invasive mole and choriocarcinoma was recurrent bleeding. This varied from three weeks to three years after molar abortion and curettage. It will be noted that there were only 16 women altogether who had recurrent bleeding. Since seven of these had invasive mole or choriocarcinoma it might be wise to consider hysterectomy without curettement to be indicated when recurrent bleeding occurs if chorionic gonadotropin is present in serum or urine in significant amount at the time bleeding recurs. Curettage under these circumstances would theoretically enhance the occasion for spread of the neoplasm.

Consideration should be given, of course, to the possibility of a new pregnancy occurring in the interim. Careful history and physical will usually differentiate threatening abortion of a new pregnancy from serious sequelae of the molar gestation.

On the other hand absence of recurrent bleeding three or more weeks after initial definitive treatment may be regarded as indicating probable absence of serious sequelae of mole. Should enlargement of the uterus and rising gonadotropin be detected in the follow-up period the absence of uterine bleeding may be the differentiating factor between recurring trophoblastic growth and new pregnancy. Again, under this set of conditions a careful history and examination are paramount. Delfs (1957) has proved the value of quantitative gonadotropin determination in the diagnosis of mole and choriocarcinoma.

Summary

1. A series of 65 cases of hydatidiform mole occurring in private and charity patients was studied.

2. Complications and sequelae noted were molar abortion, bleeding, preeclamptic toxemia, sepsis, recurrent bleeding, residual mole, invasive mole, choriocarcinoma, and death.

3. The preeminent sign of serious sequela to molar gestation is recurrent bleeding after three weeks from initial treatment.

4. Patients having this sign should be further treated by hysterectomy if serum or urinary gonadotropin is elevated, after evaluation of history and physical findings to obviate, where possible, mistaking threatened abortion of a new pregnancy for recurrent mole or choriocarcinoma.

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Discussion

Dr. E. E. Dilworth (Shreveport): We have been presented with an excellent coverage of and a practical approach to a rare but important complication of pregnancy. The reported incidence of molar pregnancy could easily make it a once in a life time problem for the doctor doing a limited amount of obstetrics. It is therefore doubly important that we have this opportunity to pool our cases and compare our results.

I have taken a five and a half year sample of moles from admissions to Confederate Memorial Medical Center. This yielded 12 cases out of 16,155 admissions to the obstetrical service. Every case had vaginal bleeding preceding delivery of the molar tissue. Nausea and vomiting was the second most frequent symptom. Two of the patients died, one from choriocarcinoma; the second entered the hospital in irreversible shock from profuse hemorrhage.

A few years ago I reviewed the cases of chorionepithelioma in the same institution from 1932. I have kept a running record of every case of chorionepithelioma since that time and have now a series of 18 cases. Six of these cases had a hydatidiform mole as the last pregnancy preceding the diagnosis.

This is further emphasis that every case of

hydatidiform mole should cause one to think of choriocarcinoma. However, I fully agree that hysterectomy at any time is not the solution to the problem. We have not had a single case of choriocarcinoma survive from surgical treatment though we have one case still living which had a histological diagnosis of choriocarcinoma on Feb. 26, 1957. This patient had lung metastasis so we feel that intravenous medication is responsible for her survival.

In general, our treatment of hydatidiform mole is curettement if possible at the time of diagnosis and certainly at the time of abortion. Since a thorough curettement is next to impossible with such an enlarged uterus we feel a second curettement should be routine as soon as the uterus involutes to a reasonable size. We hope this will cause the Friedman test to become negative sooner and avoid some of the worrisome bleeding. Twenty-five per cent of this small series were teenage and 58.3 per cent were less than 30 years old. We, therefore, have been very reluctant to do hysterectomy in these cases. In the older age group I would favor hysterectomy as the initial treatment.

I closing, I would like to mention one complication that has caused us some concern. That is the presence of benign lutein cysts of the ovary which frequently accompany moles and chorioepithelioma. They, of course, do not need to be removed. We have at times wondered if the slowly absorbing large lutein cyst might not be responsible for a persistently positive Friedman test.

Medico-Chirurgical Society

The Medico-Chirurgical Society has languished until it has fallen into complete decay. It has done no scientific business for two years past, and as if with the view of giving it the *coup de grace* and terminating its agonies, a small number of members, *less than a legal quorum*, recently got together, gave away its funds and adjourned *sine die*.

Thus may the society be said to be dead. But we object to the manner of its death. If the present officers and members of this society be unwilling to do any thing more, let them at least preserve the funds and archives—these may form the nucleus of a future organization. We shall long remember the regular and interesting meetings of this society during the first two or three years of its existence. There the French and American physicians met to interchange professional views and opinions, and there the utmost harmony prevailed. Each anniversary might truly be characterized as "the feast of reason and the flow of soul." But now—how sad the retropect! A president and two vice-presidents are numbered among the dead, and their survivors have fallen into a state of apathy. Harlan, Slade, and Luzenberg are no more; but we hope yet to see the day when the Medico-Chirurgical Society, like the fabled Phoenix, will arise again from its ashes.

New Orleans M. & S. J. 5:683 (March) 1849.

The Fact, Fantasy, and Fiction of Colic

• The author believes that a formerly accepted term is merely the scapegoat for many ills both psychic and physical.

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Thibodaux

WE, of the medical profession, for lo these many years, have yielded to the pressures of public fantasy and fiction in many areas, with a complete disregard for fact. Often this is done by self rationalization, on the grounds that it is much easier to go along with what our patients think than to get in arguments or lengthy discussions with them. In this manner, we have been the unwitting accomplices to the perpetuation of fantasy and fiction in many areas of medicine. Alexander Pope once wisely wrote, "Be not the first by whom the new is tried, *nor yet the last to lay the old aside.*"

Fantasy

In my opinion, there is no other area of fantasy and fiction comparable in magnitude to that of the well-baby care of a newborn infant. Here is a function of mankind that is as old as mankind itself and yet as we approach a point in progress where man reaches out to touch the very stars and planets, we still hold to many of the old ideas and concepts loaded with lore, fantasy, and fiction.

The beliefs, concepts, treatments, and managements that attend the normal maturation processes of the human infant in his teething, hiccuping, stool habits, sleep habits, and above all else, his "colic" are legion. Because a child picks at his nose, he is often treated for worms. The three to seven year old with stomachalgia often has his appendix removed. Severe convulsions are dismissed without adequate study as due to teething. To even touch on all of these would require volumes. The purpose of this paper is to deal with colic.

The fantasy and fiction of colic lies in the continued belief that it is a disease and that as an entity it requires special treatment and special medicines.

Facts

Let us look at some of the facts about colic. If one examines all the many thousands of charts in a large hospital such as Charity Hospital in New Orleans, it is doubtful that a handful could be found with the primary diagnosis of colic. Yet how many of us in private practice tell our patients their child has colic? Colic never makes its appearance in our hospital newborn nursery. Yet almost immediately with the child's arrival at home, the telephone rings at the doctor's offices heralding the advent of colic. Colic is practically always found in the first born child; it is rare that parents with two or three children will complain that their child has colic. An astute and experienced physician can often foretell by the tension and nervousness of his expectant mother that her child will have colic.[1] These being the facts that attend colic can one logically concludes that colic is a disease entity?

Colic is deeply ingrained in our society. Its origin and chief predisposing factors appear long before the conception of any given child. Unfortunately, modern society does not prepare prospective parents for the responsibilities of parenthood. Through the media of television, movies, and books the infant is extolled as a mite of restful, lovable, sleeping angel. Parents are simply unprepared for the rude awakening to reality of the crying, straining, struggling, hungry, diaper soiled, diaper wet, trembling limbs, hiccuping, nasal hacking, bundle of flesh that is man's start on this earth. They are unaccustomed to

The Children's Clinic, Thibodaux, Louisiana.

the rude awakening at night by the infant's scream for food. They have not been buffered to the demands that now must be met with personal self sacrifice to insure their infant's survival.

Nature has deeply rooted within the newborn numerous reflexes, chief of which is the crying pattern so that the infant can make known his wants. His wants, being signaled only by the crying reflex, are not always easily interpreted by the novice parents. This produces in the parents a sense of frustration. Hence, they seek at once counsel from those whom they feel to be more learned than they. Herein enter neighbors, friends, and grandmothers. In all the garbled information and misinformation there constantly recurs one word over and over, colic- colic- colic.

Soon they seek medical consultation for frustrations that they feel toward their own apparent inadequacy of parenthood. Here comes the clincher! The doctors says the baby has colic and they seek to forever close Pandora's Box with one magic nostrum, some green drops that are "colic medicine." Here, in one bottle, with 10 drops three times a day, will be the answer to the responsibilities of parenthood. Alas, too soon, it is discovered that this just does not work, so back to the doctor. Now a new and vicious cycle is born. Formulae are changed and changed and changed. New medicines are given, red drops are substituted for the green ones, and in this manner times passes until slowly maturation of the infant solves the problem.

In reality then, so-called colic is not a disease but is a situation in which parent and child both are adjusting to a new environment. One needs only cite the minor stimulant of a thump of the finger on the sole of the foot with the resultant loud wail to realize the extreme reactivity of the normal infant to its environment. Loud noises, tight clothing, soiled diapers, and above all else, hunger will cause a normal infant with no disease to cry lustily, loud, and long.

Solution of Problem

The true answer to colic, as in all other areas of medicine, is to seek out the cause, answer it, and the problem will be solved. We, as physicians, commit a grievous error to perpetuate the fiction and fantasy of colic as a disease. Parents should be told that there is no such disease as colic, that the crying of their infant is an expression of his immaturity. It is his reaction to his environment. It is his signal of some want to be satisfied. Rarely, do crying and excessive irritability of an infant signal organic disease. All such infants merit careful and complete histories and physical examination. Some infants do manifest gastrointestinal allergy and a trial of seven to ten days on hypoallergic formula will act as both a therapeutic and diagnostic measure.[2]

In those infants in whom all organic causes have been eliminated, a little time spent with the parents to assure them that their infant has no disease is in order. Also, they must be impressed that they are fully capable of caring for this infant themselves without the help of friends, neighbors, and grandparents. If a rigid schedule is being enforced and the child is fed by the clock, they should be instructed to feed the child as much or as little as he, the child, desires as often or as seldom as he, the child desires. Many infants will nurse 3 to 4 ounces of a formula and fall asleep only to awake in ten to fifteen minutes screaming loudly and lustily. When offered another feeding at this time a child will take only 1/2 to 1 ounce and fall asleep again for a four to six hour period. To ignore this and adhere rigidly to a set clock schedule will result in an irritable screaming baby until the next bottle is due.

Formula

The normal newborn takes frequent small fedings of 1 to 2 ounce quantities and desires to nurse at short intervals of one to two hour periods, taking as many as 10 to 14 bottles in a twenty-four hour period. Parents often thicken the formula, working under the fiction that if the formula is stronger he will go longer and require less care. We should not lose sight of the mineral solute load principle.[3]

The best criteria of a good artificial formula is its approach to the iso level of mother's milk as a standard. To thicken formula hypercalorically and hyperminerally above mother's milk, produces a renal stress on infantile immature kidneys. Many of the irritable, fussy, so-called colic babies are the product of poor formula construction. Subclinical cases of tetany actually exist in practice because of hyperelectrolyte mineral load in unaltered cow's milk feeding.[4]

Solid Food

When we started practice in this area, Southeast Louisiana, some ten years ago, it was only with great difficulty that we could encourage parents to introduce solid foods in the diet of infants. Most people would reply that the Lord never intended babies to take solid food until they had their teeth at six to eight months. I remember well, one grandfather who told me that if the good Lord had meant for the baby to have spinach he would have had it coming out the mother's breast. In spite of this attitude we must have done too good a job of selling early introduction of solid foods. Each doctor vied to see who could start what the fastest. Today, I am alarmed to find what some parents are feeding 2 and 3 week old infants. Just as there is a normal maturation process for development of neuromuscular achievements, that is, the infant sits at 6 to 8 months, walks at about a year, and so on; there is also a maturation of the gastrointestinal function and its readiness to accept solid food. Too early introduction of complex food products can produce irritability and crying in the young infant.

"Loving Care"

Not all crying is hunger, gas, or gastrointestinal dysfunction. Many infants cry seeking only human contacts, pleasant and harmonious sounds, and the warmth and security of being held in arms. Surely there is no sin to taking an infant in the arms, rocking in a rocking chair and softly singing a lullaby. This has cured more colic than all the tidal waves of "green drops" that have been squirted down throats of struggling infants. With an understanding by parents that crying is a normal manifestation of infants to voice their desires, with intelligent feeding, with assurance that the parent is capable of caring for their infant, with a little intelligent and loving care, we can lay aghost forever the fantasy and fiction that colic is a disease.

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Treatment of Headache

The hemicrania often met with in females, during the menstrual periods, arises from ovarian irritation. The treatment is by the daily use of hip-baths or sea-bathing: attention to the state of the rectum; abstinence from stimulants; mental employment; infus. valerian with digitalis, with pills and assafoetida; occasional local or general bleeding; or, when these fail, a general mercurial action, the cold baths being omitted. Locally, apply belladonna plasters, veratrine ointment, simapisms, or blisters. When the patient is much exhausted, try a tonic treatment, giving quinine and valerianate of zink, or when there is chlorosis, sulphate of iron with inf. valerian.

New Orleans M. &. S. J. 5:651 (March) 1849.

Hereditary Spherocytosis*

• The author presents an interesting case report on hereditary spherocytosis which occurred in the father and two siblings.

J. RALPH MEIER, M. D.
New Orleans

DURING the past year, three cases of hereditary spherocytosis occurring in one family, have been studied at Hotel Dieu, New Orleans. This paper concerns itself with laboratory studies and the clinical course of these patients.

The patient, a 48 year old white male of Italian descent, was first admitted to Hotel Dieu in March 1958. At that time he complained of progressive jaundice with severe, persistent right upper quadrant pain, nausea and vomiting of two days' duration. Shortly after the onset of the above symptoms he noted progressive swelling and tenderness in the right upper quadrant. The urine was noted to be much darker than usual and the stools somewhat lighter than normal, though not clay colored.

Physical Examination

On admission, physical examination revealed a well developed, poorly nourished white male who was deeply jaundiced and appeared both acutely and chronically ill. Blood pressure was 130/80: pulse 84/min. and regular; temperature 98° F, orally. The sclerae and conjunctiva were markedly icteric, as were the mucous membranes of the buccal cavity. Examination of the heart and lungs was essentially negative, with no clinical evidence of cardiac enlargement. Inspection of the abdomen revealed fullness in the right upper quadrant and right flank. There was marked tenderness to palpation over the entire right upper quadrant with guarding. A questionable soft mass was palpable just below the right costal margin. The spleen was markedly enlarged and firm in consistency. The lower pole of the spleen extended to the left iliac crest. Over the medial surfaces of the lower half of both legs there were several circumscribed areas of scarring, some of which appeared deep, others superficial. The overlying and adjacent skin was discolored by a brownish pigmentation. In the midportion of the legs scattered superficial varicosities were noted.

Laboratory Studies

Laboratory studies revealed a hemoglobin of 12.4 gms; hematocrit, 33%; total white count, 29,350 with 71% segmented neutrophils, 14% stab neutrophils, 1% basophils, 10% lymphocytes and 4% monocytes. Smears of peripheral blood showed spherocytosis, anisocytosis, poikilocytosis and polychromatophilia. (Eight days after admission the hemoglobin had dropped to 8.5 gms. and hematocrit had fallen to 27%). Urinalysis revealed a specific gravity of 1.020; negative for sugar and albumin. Tests for bile and urobilinogen were not ordered.

Following rehydration and multiple transfusions, the patient was taken to surgery and a cholecystostomy was performed with removal of multiple pigment stones from an acutely inflamed gall bladder. The postoperative course was essentially uneventful.

Investigations into Etiology

With this patient's past history of long standing anemia, splenomegaly and intermittent jaundice, investigations were begun to determine the etiology.

Blood studies revealed a hemoglobin of 7.7 gms. %, hematocrit, 21%; RBC 2,870,000; reticulocytes 6%; WBC 11,600 with 65% segmented neutrophils, 2% stab neu-

* Presented at the Seventy-ninth Annual Meeting of the Louisiana State Medical Society, May 6, 1959, in New Orleans.

trophils, 3% eosinophils, 29% lymphocytes and 1% monocytes. The peripheral blood smear again showed anisocytosis, poikilocytosis and polychromatophilia. There were many spherocytes and microspherocytes present with an average cell diameter of 6.3 microns. Erythrocyte fragility studies revealed a striking increase in osmotic fragility with initial hemolysis occurring in 0.76% NaCl and complete hemolysis in 0.4% NaCl. Filter paper electrophoresis of hemoglobin yielded 100% normal adult hemoglobin.

Biochemical determinations revealed an indirect Van den Bergh of 13 mg. % and an icterus index of 75. Remaining determinations including total protein, A/G ratio, NPN and glucose were all within normal limits. Urobilinogen was markedly increased in the urine and stool (qualitative). No bile was found in the urine on several determinations.

Direct smears of sternal marrow showed a marked normoblastic hyperplasia, with a differential of 54% normoblasts. The myeloid and megakarocytic series were of normal appearance. The megakaryocytes were producing platelets in normal quantities.

Direct and indirect Coomb's tests were negative.

Radiological examination of the chest and gastro-intestinal tract failed to reveal any significant pathology. No skull or bone films were made.

Pathology

With a diagnosis of hereditary spherocytosis, splenectomy was performed on January 9, 1959. The spleen weighed 1910 grams, and measured 23 by 20 by 7 cms. The capsule was focally roughened and thickened by hyaline plaques. Over the inferior pole there were multiple fibrous adhesions and an aberrant splenic artery. The spleen was firm in consistency. On cut surface the follicles were indistinct and the pulp was markedly congested. At the periphery the trabeculae were prominent. Microscopically the lymphoid follicles were compressed and widely separated by a markedly congested pulp. The sinusoids for the most part were compressed. In scattered areas, however, the sinusoids were dilated but empty. There were scattered foci of extramedullary hematopoiesis, largely normoblastic. The trabeculae were thickened and hemosiderin was deposited between the connective tissue fibers. Foci of calcification were also noted within the trabeculae. Scattered throughout the pulp were multiple early siderotic nodules.

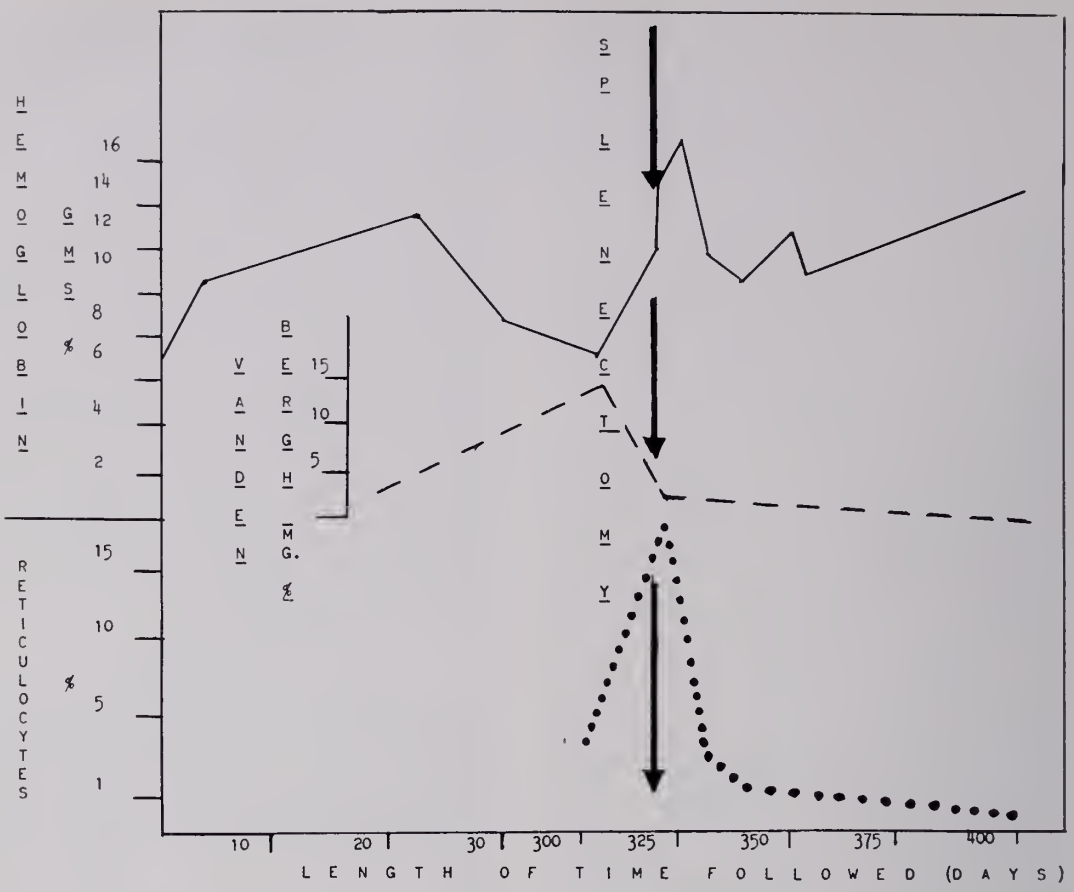
The patient's immediate postoperative course was complicated by a subdiaphragmatic abscess from which coagulase positive staphylococcus aureus was isolated. On the thirtieth postoperative day the patient was discharged. At the time of discharge the hemoglobin was 10.6 gms., and the hematocrit 36%.

Comment

The graph in Figure 1 plots the laboratory course of this patient before and after splenectomy, for a total of four hundred and one days. The anemia in this patient, as depicted by the hemoglobin concentration, was never severe except at two points; the first being during the acute episode of cholecystitis and the second following the subdiaphragmatic abscess. At one point (around the three hundred and tenth day on the graph) the patient had an apparent hemolytic crisis with a further drop in hemoglobin and marked bilirubinemia. During the entire duration of follow-up the reticulocyte counts followed an expected pattern, being highest just prior to splenectomy, and gradually returning to normal as the hemoglobin rose.

It is also interesting that at the time the hemoglobin was at its lowest level, shortly before splenectomy, the platelet counts also fell to 50,000 per cubic mm. Whether this represents an aplastic crisis was not proven by marrow studies. Following splenectomy, thrombocytosis occurred, without evidence of thrombotic phenomenon.

At the last follow-up visit, the serum bilirubin had returned to 1.5 mg. % slightly above normal levels, and all evidence



of clinical jaundice had subsided. At this time the patient had regained 18 pounds and was markedly improved. An elective cholecystectomy is anticipated in the near future.

On the patient's first admission to Hotel Dieu it was discovered that a daughter, age 12 years, and a son, age 10 years, were anemic and had had periodic bouts of jaundice during most of their lives. The children had both been sickly and never seemed to recover completely even from minor illnesses. Physical examination of the children revealed icteric sclerae and skin and splenomegaly. The facial characteristics of these two children including sallow complexion, broadening of the forehead and base of the nose, arched palate, and large prominent eyes with tendency to squint have been observed in many other patients with hereditary spherocytosis. There were no congenital anomalies present, however.

Hematologic studies confirmed the diagnosis of hereditary spherocytosis in these two children. As ilustrated in Table 1,

TABLE 1
SIBLINGS: OSMOTIC FRAGILITY STUDIES

		Control
Female Age 12 yrs.		
Initial hemolysis:	.72%	(.43%)
Complete hemolysis:	.40%	(.32%)
Male Age 9 yrs.		
Initial hemolysis:	.72%	(.43%)
Complete hemolysis:	.36%	(.32%)

the osmotic fragility studies were diagnostic. Remaining laboratory findings are shown in Table 2. The anemia in these children is of moderate severity and during the interval that we have followed them, has not increased significantly. The reticulocyte counts initially were high and they, too, have consistently remained over 10%. The Van den Bergh reaction is indirect and has remained around the level shown. Hemoglobin electrophoresis yielded normal adult hemoglobin in both children. Splenectomy is anticipated in both

TABLE 2
SIBLINGS: HEMATOLOGIC AND CHEMICAL FINDINGS

	Female (12 yrs.)	Male (9 yrs.)
Hemoglobin	9.7 gms.	9.7 gms.
RBC	3,400,000	3,500,000
Color index	0.9	0.9
Reticulocytes	10.5%	12%
WBC	15,800	13,700
Platelets	200,000 (Direct method)	150,000
Hematocrit	27%	28%
Van den Bergh		
Direct	0	0
Indirect	5.3 mg.%	6.3 mg.%

instances following the completion of the school year.

The inheritance of the disease in these patients is uncertain beyond one generation. The patient is of Italian descent. His father was a native of Italy, but immigrated to this country as a young man. The mother is American. The patient has three brothers and three sisters. As far as we could determine by history, there has been no evidence of anemia, splenomegaly, jaundice, or gall bladder disease in any member of the patient's family. Other than the patient and his two children who have the disease, we have no confirmatory laboratory studies on any member of the patient's family or their families. Without fragility studies and other hematologic work-up we cannot say with certainty that this represents a mutant gene which has expressed itself in a later generation, or whether a gene of low penetrance is involved.

Summary

Three cases of hereditary spherocytosis occurring in the same family have been presented. The father represents the complete form of the disease with long standing anemia, splenomegaly, jaundice, cholelithiasis and chronic leg ulcers. The patient's two children also have the disease with characteristic laboratory findings, but with a milder anemia. The inheritance of the disease cannot be traced back further than one generation due to lack of laboratory studies on the patient's family.

The diagnosis of hereditary spherocytosis should be considered in any patient with a family history of anemia, jaundice, or splenomegaly who presents himself with these symptoms, be they complete or mild in expression. Osmotic fragility studies in the complete form of the disease are characteristic and indicate a corpuscular defect. As in the patient presented, splenectomy invariably effects complete alleviation of symptoms, though the erythrocyte defect persists.



The New Orleans Medical and Surgical Journal

This number closes the Fifth volume of the Journal; and although beset with difficulties and embarrassments from the commencement, yet we would fain hope it has acquired strength by age, and may now be regarded as one of the established medical periodicals of the country.

Again we invoke the aid of the friends of the work to assist us by their pens, and otherwise, in forwarding and circulating the Journal. To a liberal and enlightened profession we must appeal for that generous support for which its members are so distinguished in every part of the world.

New Orleans M. & S. J. 5:795 (May) 1849.

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Editorial

Aging--A Community Responsibility

"It is not how old you are but how you are old that counts." This epigram summarizes the situation with reference to about one tenth of our population, and presents a problem which is the concern of the whole community.

We are told that some fifteen and a half million persons are 65 or older. It is expected in five years the number will be seventeen million six hundred thousand; and five years later still, nineteen million five hundred thousand. It is likely that the proportion of those above 65 will probably increase in the next decade.

In the various comments that are presented one would infer that persons of advanced years present a new problem, and that the science of medicine in providing an increase in the life expectancy of the individual has increased social difficulties. This is only partly true. The aged have always been with us. What is new is that the proportion of aged among the population has increased. This is the result of the application of the principles of medical science to many phases of living, which include sanitation in a broad sense, application of the principles of healthful living more intimately, the successful care of many phases of the infectious diseases, and of some of the degenerative diseases, including tumors.

In generations of the past these individuals of advanced years found their appropriate places in the community life in a manner largely of their own choosing, and aside from the disabilities imposed by infirmity, continued to be useful and esteemed for their psychological and physical contribution. In what is known as the modern age, two circumstances have contributed to a dislocation of this established relationship. What has been interpreted as imperative demands on the time of a large part of the individuals that make up a community have left an insufficient amount of time or concern for the aged. The other contributing factor is arbitrary retirement at 62 or 65, which results in serious loss of the individual's contribution to the community, and at the same time, produces in him a feeling of being useless, unwanted, and

with no prospect except the dismal one of waiting for the end.

Such arbitrary handling of an individual's life pattern necessarily produces an emotional reaction with a feeling of dislocation and depression. The idea that a human being, normal or otherwise, can direct his thoughts, hopes, and attainments along a given channel for thirty or forty years, and at the stroke of a clock redirect them in some new and different channel, indicates a total lack of comprehension as to what makes up emotional stability and human happiness.

We are the summation of our past. In providing, therefore, that the aging process can be as satisfactory as present knowledge would allow, the field has to be surveyed in its emotional, socio-economic, and medical aspects. These three react on each other. The emotional phase of the situation can be served only if the individual's sense of importance and of his being useful are maintained, and he must be employed in a manner satisfactory to himself. The socio-economic phase is life's central problem for most individuals living in a highly organized society. This, equally with the emotional phase, is intimately bound up with the individual's educational and social opportunities, extending over a lifetime. The medical aspect of this whole situation can be presented more closely to our view, and is susceptible of care and adjustment within our limits of knowledge. It cannot be expected to correct deficiencies in the first two. However, it is said that medical science has provided these added years to the life of our senior citizens and now must provide them with the means of living those years satisfactorily. Such an assumption presumes on an amount of medical knowledge not presently at hand. It also presumes by such means to correct deficiencies in related fields. Medical science has achieved at least partial success in sanitation and hygiene, somewhat less success and control in infections, but its ability at present to delay or minimize the effects of the degenerative diseases is negligible.

The attempts to improve the status of those who are aging, by decree, would be as ineffective as it may be ludicrous. Examples of this are enforced retirement, the Forand bill, and the various attempts to do for the aged what they would much prefer to do for themselves.

Aging, therefore, is a community responsibility. Preparations for its proper management must begin in early life and must include adequate attention by the individual in all three spheres of his life's pattern. Only in such a manner can he grow old gracefully.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

LOUISIANA STATE MEDICAL SOCIETY SURVEY

Physicians have always had the reputation of being a very generous group—especially in caring for the indigent without charge. They have also enjoyed a good reputation for giving to worthy charitable, religious and civic causes.

Despite this enviable reputation, little data exists to show just how charitable physicians are and how much they contribute. Hence a survey was made to provide, for the first time, an indication of just what Louisiana physicians are doing along charitable lines.

Unfortunately, figures on the charitable activities of other professional groups are not available for comparison. However, anyone who

reads the results will readily see that physicians justly deserve their reputation.

To find out what Louisiana physicians contribute, a business reply type of post card was mailed to members of the Society with the July issue of CAPSULES. Members were asked to answer seven questions anonymously and return the cards without delay. By October 1, 464 physicians (19.5% of the Society's membership of 2,373) had returned the cards.

In compiling the data, every possible effort was made to see that the results were accurate. It is for this reason that the number responding varied for each question. For example, when a card was marked "working full-time in a charity hospital", the hours were not included as free medical service. However, this same card was valid for use in questions concerning cash donations, hours spent in civic activities, etc.

If it can be assumed that the figures arrived at in the survey are indicative of an "average" member of the Society, the total contributions made by Louisiana physicians are truly impressive. For instance, by dividing 52 weeks into 237, we find that the "average" doctor in the survey contributed over four and one-half hours per week in free medical service. The same can be done with most of the answers.

Where possible, a breakdown was made for each question. Members should find this interesting as it will allow them to gauge their activities with those of their colleagues.

Recently, the Dade County Medical Society (Florida) made a similar survey, but most of the questions were different. Where it is possible to compare, Louisiana physicians made an excellent showing. For instance, the Dade County survey showed the average physician contributed 2.9 hours per week in treating indigent patients, versus 4.5 hours for those in the Louisiana survey.

FINAL RESULTS

A total of 464 doctors or 19.5 percent of the Society's active membership of 2,373 participated in the survey. The number of replies varied for each question because some did not answer all questions. When range estimates were given, (e.g., 250-300) an average was used.

1. Estimated hours of free medical service per year:

Replies	Total Hours	Average Per Doctor Per Year
440	104,428	237 free hours

Thirty-six doctors reported rendering over 500 hours of free medical service per year. A breakdown of the "highs" (over 500 hours) shows:

Number of Hours	Number of Doctors	% of Replies
500-600	18	4.0
601-700	11	2.5
over 700	7	1.5

In the "low" group (those reporting less than 75 hours) there were 49 doctors.

Number of Hours	Number of Doctors	% of Replies
4-24	9	2.0
25-49	11	2.5
40-77	29	6.5

2. Dollar value of free service rendered by members:

Replies	Total Value	Average Per Doctor Per Year
437	$1,543,273	$3531.51

Amount Reported	Number of Doctors	% of Replies
$ 100 or less	3	.7
$ 100-$ 500	29	6.6
$ 501-$1000	67	15.3
$1001-$2000	89	20.3
$2001-$3500	99	22.6
$3501-$5000	67	15.3
over $5000	83	18.9

3. Hours spent per year in TOTAL medical service (paid and free) per year, but excluding staff meetings, professional conferences, research, etc.:

Replies	Total Hours	Average Hours Per Doctor
409	1,165,932	2851 hours

4. Number of patients treated without charge per year:

Replies	Number Free Patients	Average Free Patients Per Doctor
401	136,743	341

Free Patients	Number of Doctors	% of Replies
under 25	34	8.4
26-50	59	14.7
51-100	65	16.2
101-200	56	13.9
201-300	58	14.4
over 300	129	32.1

5. Hours spent annually in professional affairs, aside from treating patients (hospital, medical society, and committee meetings, conferences, research, specialty groups, etc.):

Replies	Total Hours	Average Per Doctor
437	94,925	217 hours

Number of Hours	Number of Doctors	% of Replies
less than 50	40	9.1
51-100	168	38.4
101-200	126	28.8
over 200	103	23.5

6. Hours spent annually in civic activities, church work, public service, community project participation, etc.:

Replies	Total Hours	Average Per Doctor
454	47,991	106 hours

Number of Hours	Number of Doctors	% of Replies
0	46	10.1
10 or less	32	7.0
11-24	25	5.5
25-50	100	22.0
51-100	136	29.9
over 100	115	25.3

7. Cash donations to charity, welfare drives and other beneficiaries:

Replies	Total Amount	Average Per Doctor
454	$498,896	$1098.88

Cash Donations	Number of Doctors	% of Replies
Less than $100	5	1.1
$ 100-$ 250	64	14.1
$ 251-$ 500	114	25.1
$ 501-$1000	119	26.2
$1001-$2000	101	22.2
over $2000	51	11.2

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Ascension	Third Tuesday of every month	
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Lafayette	Second Tuesday of every month	Lafayette
Morehouse	Third Tuesday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

DR. FORET GETS HOSPITAL POST

Dr. Justillien H. Forest has been appointed to the medical directorship of De Paul hospital, the hospital announced recently.

Dr. Foret succeeds the late Dr. Walter J. Otis, who served as medical director from January, 1937, until his death last June.

Appointment of Dr. Foret was made by Sister Mary Alice, hospital administrator, and the hospital governing board. His selection was endorsed by the executive committee of the visiting staff of physicians.

A native of Thibodaux, Dr. Foret is a graduate of Loyola University and Louisiana State University medical school. Following a two-year internship at the Los Angeles County general hospital he was a general practitioner in Thibodaux for four years.

Dr. Foret received his psychiatric training at Worcester State hospital, Worcester, Mass. He served as a clinical director at Blythewood Sanitarium in Greenwich, Conn. for five years before coming to De Paul hospital in 1952.

Prior to being appointed medical director, Dr. Foret was clinical director at De Paul.

SEMINAR IN RECONSTRUCTIVE NASAL SURGERY

A seminar in "Reconstructive Surgery of the Nasal Septum and External Nasal Pyramid" will be held in New Orleans, February 10-13, under the auspices of the Department of Otolaryngogoly (Dr. Val Fuchs, chairman), Louisiana State University Medical School, and the Charity Hospital.

The American Rhinologic Society will co-operate in the presentation. Its founder, Mr. Maurice H. Cottle, professor of otolaryngology, Chicago Medical School, will be the guest director,

and Dr. H. Ashton Thomas of L. S. U. will be the executive director.

The seminar will offer talks by Dr. Cottle and others who have been invited to participate in an international course to be given in Mexico City, July 4-15, under the auspices of the Escuela Nacional de Medicina Division del Doctorado, and the American Rhinologic Society.

For further information, write to Dr. Robert M. Hansen, secretary of the American Rhinologic Society, 1735 North Wheeler Avenue, Portland 12, Oregon.

PLAQUE AWARDED SHREVEPORT DOCTOR BY DIABETES ASSOCIATION

The Diabetes Association of Louisiana recently awarded Dr. Arthur A. Herold, Sr., of Shreveport, a plaque in recognition of his contributions to work in the field of diabetes. Dr. F. W. Pickell of Baton Rouge presented the plaque at the ninth annual one-day scientific session which was held on Saturday, November 7.

Dr. Herold graduated from Tulane University School of Medicine in 1907. He founded the North Louisiana Sanatarium and was its president and manager for several years. He also has served as pathologist to both Shreveport Charity Hospital and the North Louisiana Sanitarium. He is a former president of the Caddo Parish Medical Society and of the Diabetes Association of Louisiana.

Dr. Herold is a former governor for the American Diabetes Society in Louisiana, councilor for the Southern Medical Association, and is a life member of the American College of Physicians. He has served as a state delegate to the American Medical Association for several years and will continue in that capacity again this year.

SECTIONAL MEETING AMERICAN COLLEGE OF SURGEONS

January 21-23, 1960

Surgeons and related medical personnel are invited to attend the three-day Sectional Meeting of the American College of Surgeons in Louisville, Kentucky, January 21 through 23, 1960. Headquarters will be The Brown Hotel. This is the first College meeting in Louisville since 1950.

Dr. Rudolf J. Noer, Professor and Department Head, University of Louisville School of Medicine, is Chairman of the Advisory Committee on Local Arrangements. Assisting him are the following Fellows of the College: James C. Drye, K. Armand Fisher, Samuel H. Flowers, Everett G. Grantham, L. A. Gray, Douglas M. Haynes, Coleman C. Johnston, D. W. Kinnaird, Hugh B. Lynn, Condict Moore, W. Vinson Pierce, R. W. Robertson, Clyde C. Sparks, C. Dwight Townes, and William C. Wolfe.

In addition to the general surgery program which will be of particular interest to gynecologists, thoracic surgeons, vascular surgeons, and urologists. Dr. C. Dwight Townes is in charge of arrangements for a special two-day ophthalmic surgery program. Dr. William C. Wolfe has planned a special two-day program for otolaryngologists, and Dr. James C. Drye is in charge of a Cancer Program Workshop for Medical Directors of Approved Cancer Programs, to be held at Louisville General Hospitals.

Clinics of interest for general surgeons, pediatric surgeons, and gynecologists-obstetricians will be held Saturday at Louisville General Hospital (participants are staff members of the hospital).

Medical motion pictures of special interest for this meeting will be shown during the three days.

Dr. H. Prather Saunders, Associate Director, The American College of Surgeons, is in charge of all Sectional Meetings for the College.

The program follows, in part:

Surgery in the Patient with Heart Disease: Some Aspects of Pre- and Post-operative Management. Edmund D. Pellegrino, Lexington.

Selection of Therapy for Peripheral Arterial Disease. W. Andrew Dale, Nashville.

Management of Acute Arterial Injuries. W. Sterling Edwards, Birmingham.

Practical Techniques in Burn Care. Curtis P. Artz, Jackson.

Role of Surgery in Thyroid Disease. Richard B. Cattell, Boston.

Pitfalls in Surgery of Biliary Tract. Francis M. Massie, Lexington.

Indications for Surgery in Gastric Ulcer. Edward R. Woodward, Gainesville, Florida.

Hazard of Air Embolism. Henry G. Hollenberg, Little Rock.

Everyday Low Back Problems. George K. Carpenter, Nashville.

Urinary Diversion. Eugene M. Bricker, St. Louis.

The Ovarian Cyst: Diagnosis and Treatment. John C. Burch, Nashville.

Symposium on Cancer:

Irradiation Vs. Surgery in Cancer of the Cervix. Ralph A. Reis, Chicago, and Condict Moore, Louisville.

Choice of Ablative Surgery for Recurrent Breast Cancer. George B. Sanders, Louisville, John C. Burch, Nashville, Henry G. Hollenberg, Little Rock.

Hormonal Therapy Vs. Radical Excision in Cancer of the Prostate. Justin J. Cordonnier, St. Louis, Robert Lich, Jr., Louisville.

FIRST AID FOR SPINAL CORD INJURIES EXPLAINED

All injured persons who are unconscious or who complain of back or neck pain should be treated as though there were an injury to the spinal cord, according to an Indiana physician.

With careful treatment, more severe damage to the spinal cord may be avoided, Dr. Leslie W. Freeman, Indianapolis, wrote in a guest editorial in the Sept 5 Journal of the American Medical Association.

A surprising degree of function can be attained after severe spinal cord injury, he said, but it is frequently the early handling of the patient that determines the ultimate outcome.

When a person is injured, he is usually first handled by a person untrained in medicine, and "it is amazing" how frequently they respond "instinctively toward proper handling," Dr. Freeman said.

However, he offered some suggestions for proper handling of the patient with a back or neck injury. The patient should be left unmoved until a physician arrives.

Then when he is moved, he should be moved "in one piece" without change in the vertebral alignment and never in a sitting or semireclining position.

If the patient can move his hands but not his legs, the spinal cord injury is below the neck. If he cannot move his hands, the injury is in the neck region, and the neck and head must be kept in perfect alignment with the body.

If the injury is below the neck enough persons must be present to lift the patient in such a way that the spinal alignment is not changed, and he should be placed on a stretcher (which might have to be improvised of boards) fully extended with the face down, Dr. Freeman said.

When the injury is in the neck area, the most convenient method for immobilizing the head is to wrap a tapered roll of heavy cloth around the neck until the bundle comes to the jutting end of the chin. The patient should be transported in a face-up position to facilitate breathing.

When the patient is being moved, someone should keep him from shifting and rolling about.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next scheduled examinations (Part II), oral and clinical, for all candidates, will be conducted at the Edgewater Beach Hotel, Chicago, Illinois, by the entire Board from April 11 through 16, 1960. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

Candidates who participated in the Part I examinations will be notified of their eligibility for the Part II examinations as soon as possible.

Current Bulletins of the American Board of Obstetrics and Gynecology, outlining the requirements for application, may be obtained by writing to Robert L. Faulkner, M. D., 2105 Adelbert Road, Cleveland 6, Ohio.

LOUISIANA TRUDEAU SOCIETY ANNOUNCES SCHARSHIP IN TUBERCULOSIS AND PULMONARY DISEASES

The Louisiana Trudeau Society, medical section of the Louisiana Tuberculosis Association, has established a scholarship in Tuberculosis and Pulmonary Dieases, which will be awarded annually to a young physician who has exhibited unusual aptitude and interest in this field and who desires to further his postgraduate education in this specialty.

The first scholarship has been awarded to Dr. Robert L. Andreae, Resident Physician in Cardiopulmonary Research, Veterans Administration Hospital, New Orleans, Louisiana. Dr. Andreae will attend a postgraduate course on Pulmonary Function, sponsored by the American Trudeau Society at Boston City Hospital, Boston, Massachusetts in March 1960.

6,860 STUDENTS RECEIVE M.D. DEGREES IN 1958-59

In its annual comprehensive report on all aspects of medical education, the Council on Medical Education and Hospitals of the American Medical Association announced that the 1958-59 graduating class receiving the M.D. degree numbered 6,680, only one less than in 1957-58.

These two classes were the largest except for the 1954-55 year when the class was 6,977. The increase in that term was occasioned by including as graduates the 50 students completing the intern year then required by Stanford University.

According to the council's report, which appeared in the Nov. 14 issue of the Journal of the American Medical Association, 43 medical schools had decreases in the number graduated while 34 schools experienced increases.

Women comprised 5.4 per cent of the graduating class and comprised 5.9 per cent of the Canadian 1958-59 graduating class.

Much of the council's report dealt with educational opportunities for the number of medical students considered adequate to satisfy medical service needs in a vastly growing population.

BOOK REVIEWS

Pediatric Cardiology; by Alexander Nadas, Philadelphia, Pa., W. B. Saunders Company, 1957. Pp. 587. Price $12.00.

Dr. Nadas has not given us a meritricious textbook replete with the ancient wisdoms, but rather a piquant summation of ten years' work in the nascent field of children's heart disease. He presents the material as a clinician discussing the problems and drawing freely from the number of disciplines within cardiology to make his points and to establish the diagnosis and rationale of therapy. There are frequent examinations of alternative plans of management, each followed with the author's personal experience, and a summation of what he considers wisest at present.

The initial portion of the book is devoted to brief clinical appraisals of the basic techniques of physical examination, fluoroscopy, electrocardiography, phonocardiography, cardiac catheterization, and angiocardiography. He uses electrocardiography as a definitive aid in the larger problem of identification of the cardiac lesion. That which has been found empirically reliable is dealt with, and lesser niceties are left to texts of electrocardiography. The section on arrhythmias is succinct, but practical.

The measurement of shunts and absolute pulmonary and systemic blood flows, again while probably adequate for most clinical purposes, lacks some of the refinements used in many cardiopulmonary laboratories. Obtaining "basal" oxygen consumption in a child is often an insurmountable task. Employing the Van Slyke oxygen analysis considerably limits the number of samples that can be studied and often may lead to over simplification or extreme complication of catheterization data.

In the second portion of the book dealing with acquired heart disease, practical considerations of rheumatic heart disease, bacterial endocarditis, and the arrhythmias are presented. The position is taken that any evidence of rheumatic carditis is an indication for steroid therapy. The dosage used is large. Differences between childhood rheumatic fever and its adult manifestations are presented. In view of the recent surgical advances more pathological discussion would be desirable. Congestive failure is handled briefly with a presentation of the author's views after a short theoretical discussion. Problems of electrolyte balance are omitted.

The third portion of the book is an excellent summation of practical problems in congenital heart disease. Here the author brings his extensive experience to bear in a systemic manner to get as close as possible to the exact anatomical and hemodynamic diagnosis. Sections include left to right shunts, valvular and vascular lesions with either right to left or no shunt, and a comprehensive grouping of the transpositions. Within each of these groups the individual lesion is presented with a short, often too short, discussion of pathology. The physiological portions are simply presented, readable, but at times as with atrial septal defect, open to minor question. The clinical findings with good discussions of differences at various age groups and varying sized defects is presented next. The clinical course, differential diagnosis and management, conclude each section. The author's hesitancy to recommend open heart surgery is in contrast to the enthusiastic and excellent reports from other groups of workers. Pump oxygenators had not been used at the author's hospital.

The final portion of the book deals with a vital but too often neglected topic of anesthesia in children's heart disease, prepared by Dr. Robert Smith of their anesthesiology department. The section is brief and points up the absolute necessity of care, preparation, and of availability of equipment.

There is a generous reference list containing many of the leading articles in the field.

Dr. Nadas's book is to be highly recommended as a welcome addition to the field of cardiology. His purpose is to give a handbook that is simple and clinical. He has abundantly accomplished his goal.

ALBERT L. HYMAN, M. D.

Diseases of the Esophagus; by J. Terracol and Richard H. Sweet, Philadelphia, W. B. Saunders and Co., 1958.

This is one of those books that causes the reader to ponder why the book was written. It is an industrious piece of work, well illustrated, but containing little information not available in existing textbooks.

FRED M. HUNTER, M. D.

PUBLICATIONS RECEIVED

Doubleday & Co., Inc.; Garden City, N. Y.: Babies by Choice or by Chance, by Alan F. Guttmacher, M. D.

E. & S. Livingstone Ltd., London: Relaxation and Exercise for Natural Childbirth, by Helen Heardman.

Prentice-Hall, Inc., N. Y.: The Life Extension Foundation Guide to Better Health, by Harry J. Johnson, M. D.

Charles C Thomas, Publisher, Springfield, Ill.: Gouty Arthritis and Gout; An Ancient Disease with Modern Interest, by Thomas E. Weiss, M. D., and Albert Segaloff, M. D.; Sexual Impotence In the Male, by Leonard Paul Wershub, M. D.

Vantage Press, Inc., N. Y.: Observations on Direct Analysis"; The Therapeutic Technique of Dr. John N. Rosen, by Morris W. Brody, M. D.

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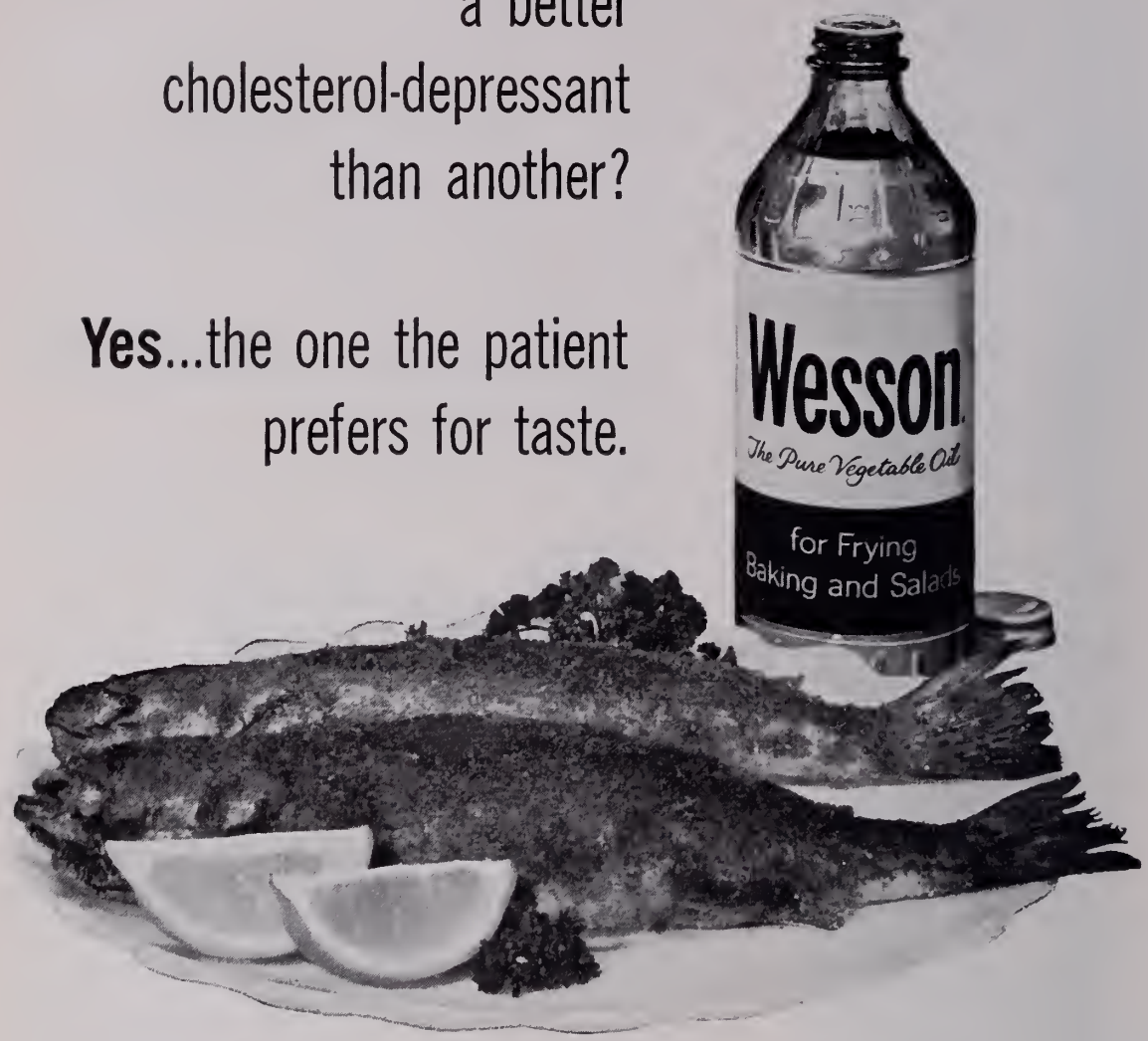
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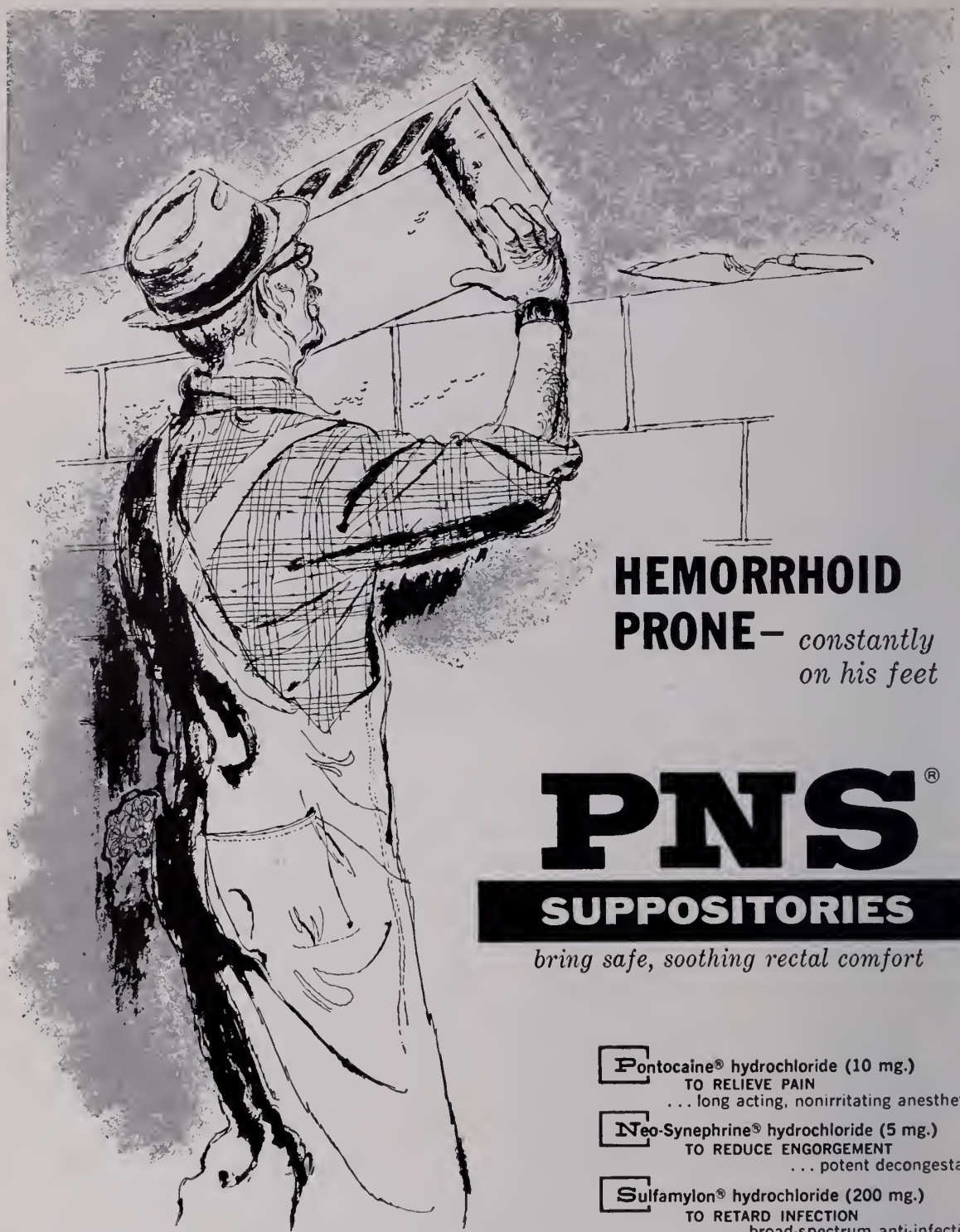
supply: RELA is available as 350 mg., pink, coated tablets in bottles of 30.

1. Kuge, T.: To be published.

H-227

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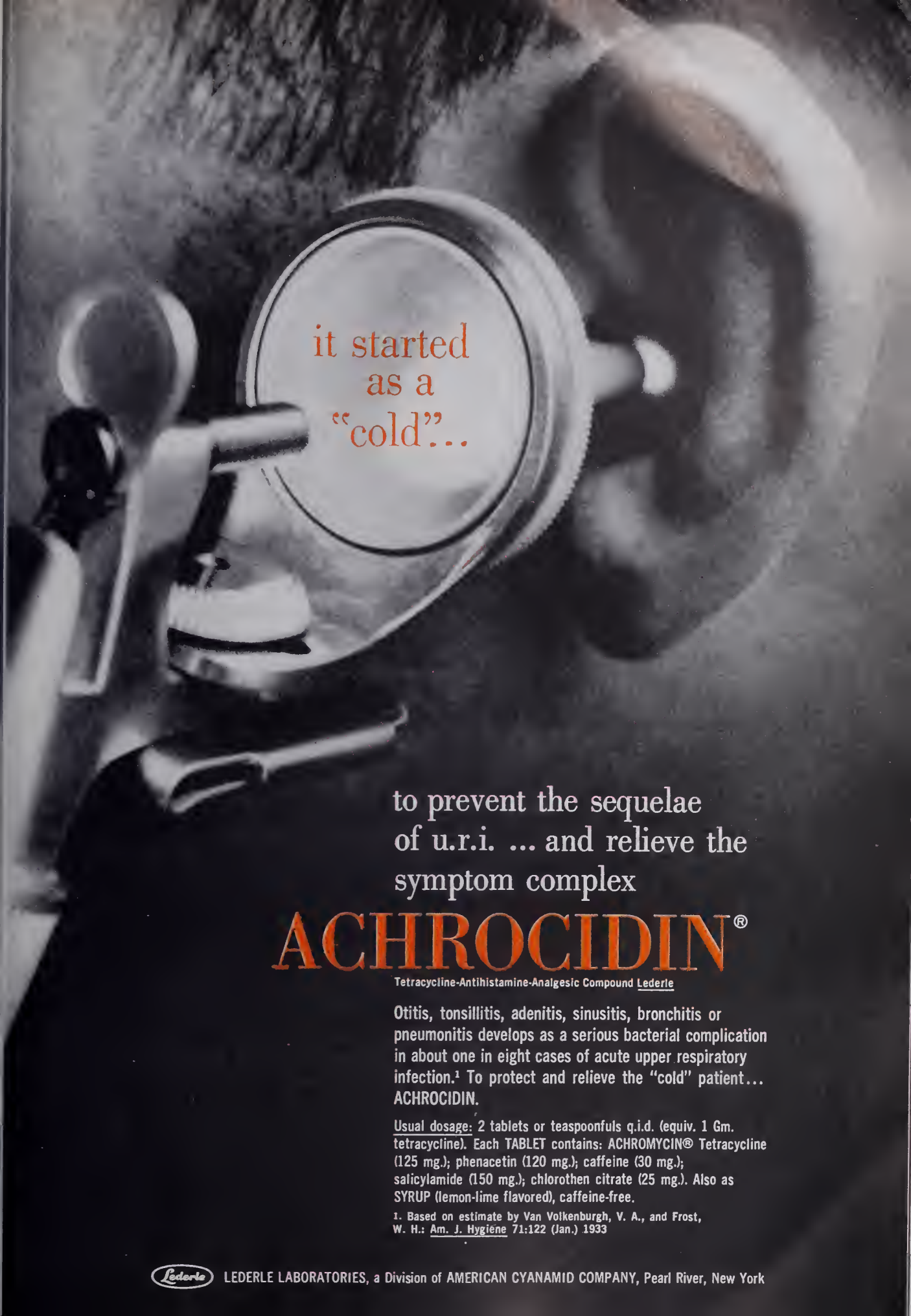
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1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933

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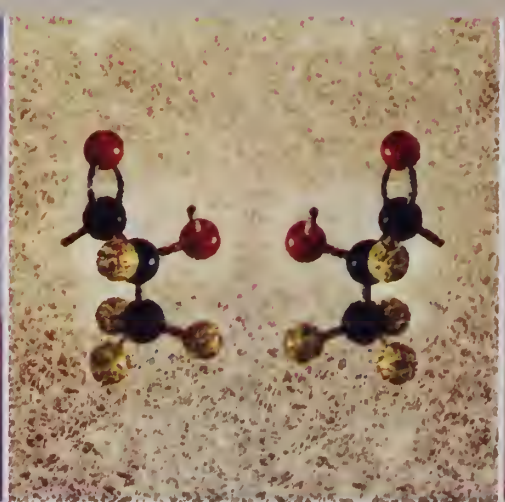


The first synthetic penicillin available for general clinical use

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SYNC







BLOOD LEVELS TWICE AS HIGH AS WITH POTASSIUM PENICILLIN V

SAFER ORAL ROUTE PROVIDES HIGHER BLOOD LEVELS THAN INTRAMUSCULAR PENICILLIN G

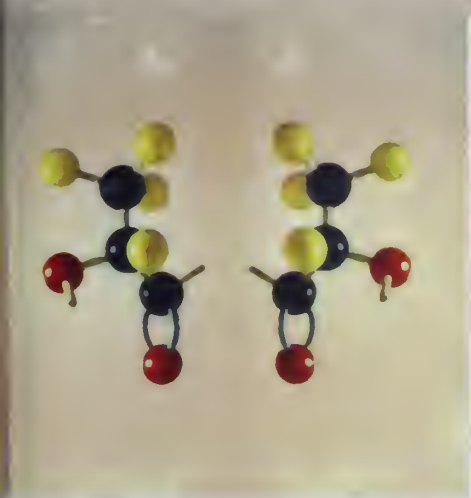
IMPROVED ANTIBIOTIC EFFECT FROM COMPLEMENTARY ACTION OF ISOMERS

ADVANTAGES ACCOMPANY MOLECULAR ASYMMETRY

SYNCILLIN™



POTASSIUM PENICILLIN-152







ANTIBIOTIC ACTIVITY DIRECTLY PROPORTIONAL TO ORAL DOSE

REDUCED HAZARD OF SERIOUS ALLERGENICITY BY SAFER ORAL ROUTE

MANY STAPH STRAINS MORE SENSITIVE TO SYNCILLIN

BRISTOL

ORIGIN OF A NEW SYNTHETIC PENICILLIN

In March, 1957, Dr. John C. Sheehan of the Massachusetts Institute of Technology announced the total synthesis of penicillin from common raw materials, thus solving a problem which had baffled research workers for more than 15 years. Although total synthesis was not commercially practicable, this work, sponsored by Bristol Laboratories, made possible the subsequent synthesis of new penicillins not occurring in nature. Later scientists at Beecham Laboratories in England discovered that a key intermediate (6-aminopenicillanic acid) could be produced by a fermentation process. With these achievements, large scale production of synthetic penicillins became feasible.

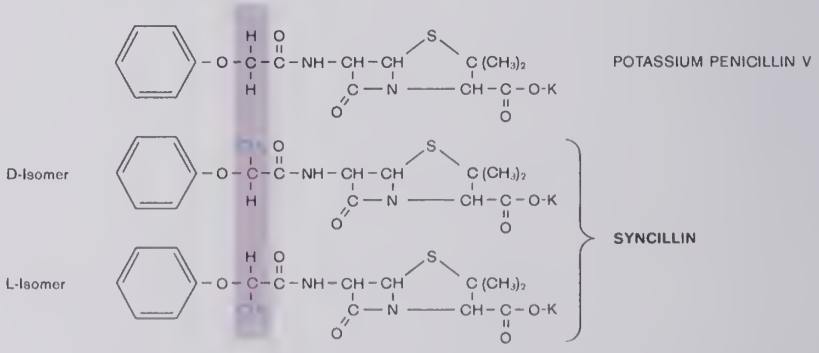
Organic chemists at Bristol then embarked upon an intensive program to develop better penicillins. Over five hundred were synthesized and underwent preliminary screening. Forty-six showed sufficient promise to warrant further investigation. Extensive microbiological, pharmacological, and clinical screening indicated that one compound, SYNCILLIN, had advantages of major importance over other penicillins.

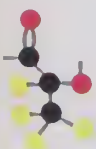
SYNCILLIN is the N-acylation product of 6-aminopenicillanic acid and α-phenoxypropionic acid (the phenylether of lactic acid). It is freely soluble in water and remarkably resistant to decomposition by acid. The acid stability of SYNCILLIN is equivalent to that of penicillin V at pH 2 and pH 3 at 37° C.[1]

SIGNIFICANCE OF MOLECULAR ASYMMETRY AND ISOMERIC COMPLEMENTARITY

SYNCILLIN has a molecular configuration similar to penicillin V, but contains an additional CH_3 group so positioned as to render the adjacent carbon atom asymmetric. (In the formulae below, the added CH_3 group is shown in blue and the asymmetric carbon atom in red.) As a result, SYNCILLIN occurs as a mixture of two isomers.

Each isomer has been synthesized in essentially pure form and found to possess distinctive chemical and biological properties. The L-isomer is 2 to 17 times more active than the D-isomer against many of the organisms tested. As produced, SYNCILLIN is a mixture of the L-isomer and the D-isomer. As will be shown later, the antibiotic effect of the clinically available mixture, SYNCILLIN, is greater than either isomer alone against many organisms. This phenomenon is referred to here as *isomeric complementarity*.





SYNCILLIN

major therapeutic advantages accompany molecular asymmetry

ISOMERIC COMPLEMENTARITY DEMONSTRATED IN VITRO

The *in vitro* minimum inhibitory concentration (MIC) of SYNCILLIN and of each of its two component isomers was determined for a variety of common pathogens and laboratory test organisms. As may be seen from Table 1, all three are highly effective against penicillin-susceptible staphylococci and against pneumococci, streptococci, gonococci, and corynebacteria; all are ineffective against Salmonella, *E. coli,* and other gram-negative coliform bacilli.

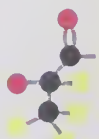
SYNCILLIN was more active against many of the test strains including some streptococci and staphylococci than either of its components. This demonstrates *in vitro* the phenomenon of isomeric complementarity.

TABLE 1

Minimum Concentrations of SYNCILLIN and Components Required to Inhibit a Wide Range of Bacteria

	Minimum Inhibitory Concentration (MIC) in Micrograms per Milliliter		
	L-Isomer	D-Isomer	SYNCILLIN
Bacillus anthracis	0.06	0.25	0.03
Bacillus cereus	12.5	100	25
Bacillus circulans ATCC 9961	6.25	6.25	3.5
Corynebacterium xerosis	0.06	0.125	0.03
*Diplococcus pneumoniae	0.06	0.06	0.06
Escherichia coli ATCC 8739	>100	>100	>100
Gaffkya tetragena	0.03	0.03	0.015
Micrococcus flavus	0.03	0.125	0.015
Salmonella paratyphi A	25	50	25
Salmonella typhosa	>100	>100	>100
Sarcina lutea ATCC 10054	0.007	0.12	0.007
Shigella sonnei	100	100	100
Staphylococcus aureus 209P	0.06	0.125	0.03
Staphylococcus aureus var. Smith	0.03	0.125	0.03
Streptococcus agalactiae ATCC 1077	0.03	0.06	0.03
Streptococcus dysgalactiae ATCC 9926	0.03	0.06	0.03
Streptococcus faecalis PCI 1305	6.25	25	6.25
*Streptococcus pyogenes 203	0.06	0.06	0.06
*Streptococcus pyogenes Digonnet	0.03	0.15	0.06
Streptococcus pyogenes 2320	0.06	0.06	0.03
Streptococcus pyogenes 23586	0.06	0.06	0.06
Vibrio comma	50	25	25

Serial dilution technique in heart infusion broth *10% serum added



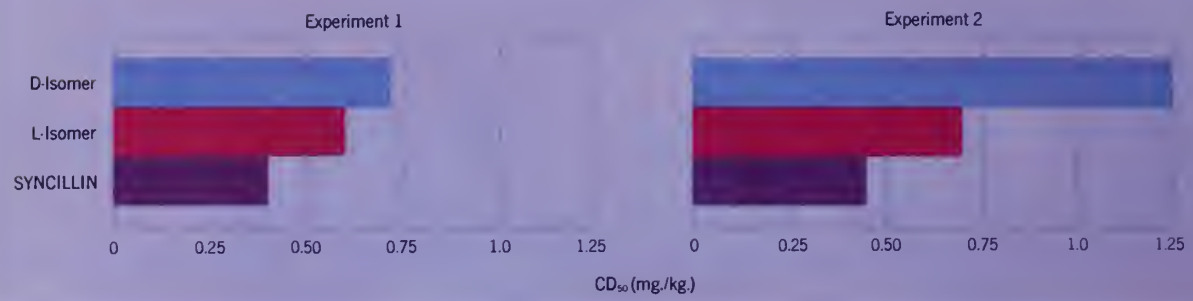
SYNCILLIN

major therapeutic advantages accompany molecular asymmetry

ISOMERIC COMPLEMENTARITY CONFIRMED IN VIVO

To determine the median curative dose (CD_{50}) mice were infected with 100 times the lethal dose of *Staphylococcus aureus*. Each penicillin being tested was administered intramuscularly at the same time, and the dose required to cure half the animals determined. The greater effect of the mixture of the two isomers (SYNCILLIN) is shown in two independent experiments. (See Figure 1.) Note that isomeric complementarity is thus confirmed *in vivo*.

FIGURE 1 — Median Curative Dose (CD_{50}) for *Staphylococcus aureus* (var. Smith) Infections

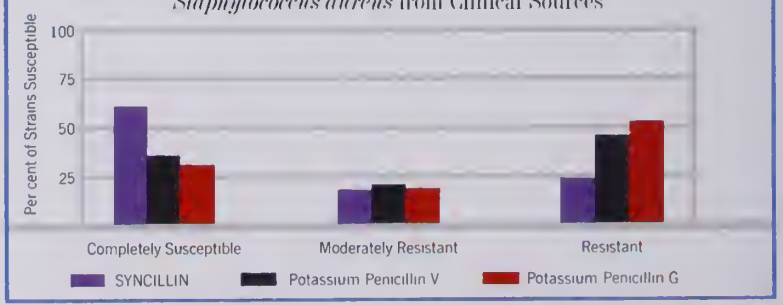


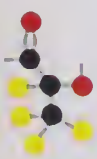
MANY STRAINS OF STAPHYLOCOCCI MORE SENSITIVE TO SYNCILLIN

SYNCILLIN has been tested against a large number of strains of *Staphylococcus aureus* isolated from clinical sources. Many organisms resistant to potassium penicillin G and potassium penicillin V proved sensitive to SYNCILLIN.

Wright[2] performed sensitivity studies on 54 strains, the majority of which were resistant or moderately resistant to penicillin V and penicillin G. Thirty-two (60%) of the strains were sensitive to SYNCILLIN, approximately twice as many as with the other penicillins. (See Figure 2.) In two-thirds of the isolates, SYNCILLIN produced inhibition at concentrations lower than those required for either of the other antibiotics. One strain was more sensitive to penicillin G.

FIGURE 2 — *In Vitro* Sensitivity of 54 Strains of Coagulase-Positive *Staphylococcus aureus* from Clinical Sources

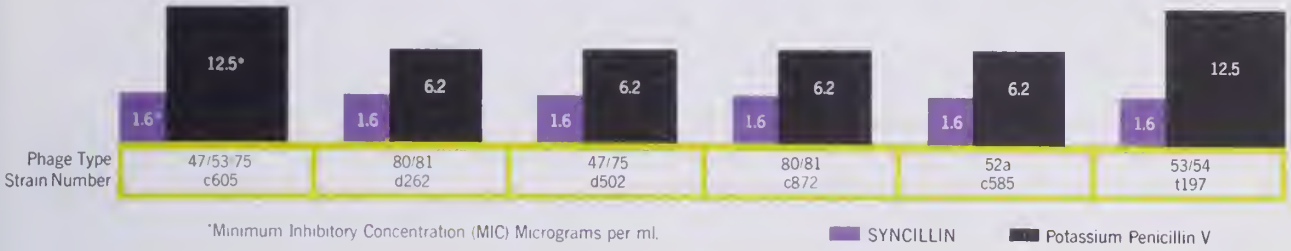




Of equal interest are the findings of White.[3] Six penicillin-resistant strains of staphylococci were isolated from hospital infections. None was sensitive to potassium penicillin V. All were sensitive to SYNCILLIN. (See Figure 3.)

FIGURE 3

Minimum Concentrations of SYNCILLIN Required to Inhibit Hospital Strains of *Staphylococcus aureus* Resistant to Potassium Penicillin V

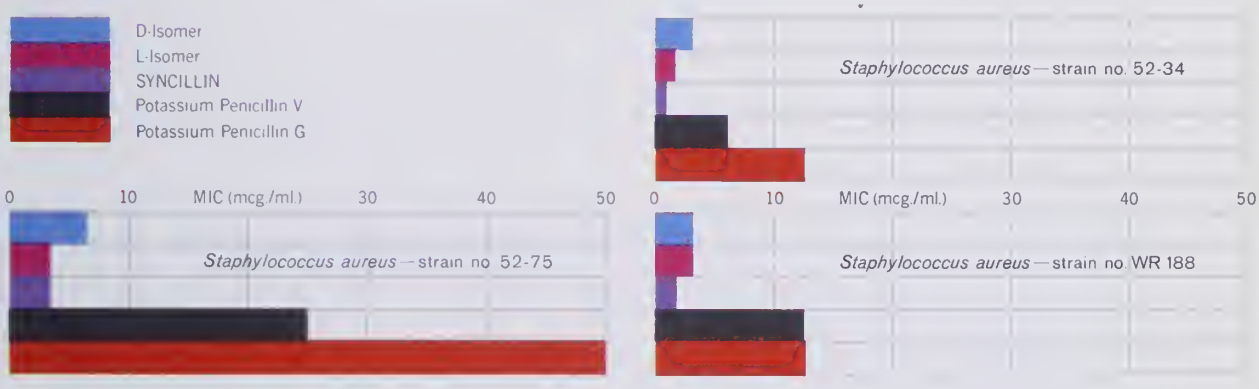


The efficacy of SYNCILLIN against the type 80/81 Staphylococcus (dangerous and widespread in hospitals) is worthy of special attention.

The complementary action of the component isomers is also seen with strains of staphylococci resistant to penicillins. Note that SYNCILLIN is more effective than either isomer against strains 52-34 and WR 188. (See Figure 4.) Against all three strains, SYNCILLIN is effective at concentrations below serum levels, while penicillins V and G are ineffective.

FIGURE 4

Minimum Inhibitory Concentrations (MIC) for Coagulase-Positive Penicillin-Resistant Strains of *Staphylococcus aureus*



Isomeric complementarity has thus been demonstrated for:

—— *certain penicillin-susceptible streptococci, staphylococci and corynebacteria* in vitro *(Table 1)*

—— *penicillin-susceptible staphylococci* in vivo *(Figure 1)*

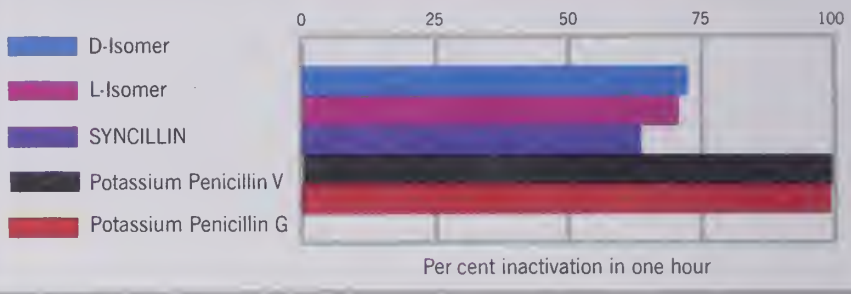
—— *penicillin-resistant staphylococci* in vitro *(Figure 4)*

ISOMERIC COMPLEMENTARITY SHOWN BY REDUCED RATE OF INACTIVATION BY PENICILLINASE

Bacterial resistance to penicillin has been attributed to the action of penicillin-inactivating enzymes produced by the invading organisms.[4] As shown in Figure 5, SYNCILLIN is less affected by staphylococcal penicillinase than either of its component isomers – a further demonstration of isomeric complementarity. Further, SYNCILLIN is shown to be less inactivated by this enzyme than penicillin V and penicillin G.

Resistance to SYNCILLIN develops in a slow, step-wise manner characteristic of other penicillins, in contrast to the usually rapid development of resistance to streptomycin.

FIGURE 5—Effect of Staphylococcal Penicillinase on Different Penicillins

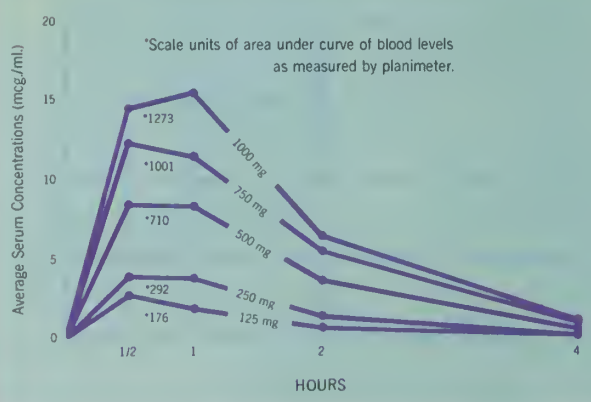


ANTIBIOTIC ACTIVITY DIRECTLY PROPORTIONAL TO ORAL DOSAGE

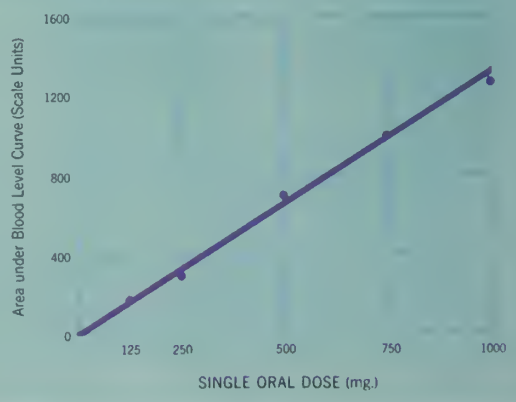
Cronk[5] studied blood levels after administering varying amounts of SYNCILLIN. (Figure 6.) Total antibiotic activity (obtained by measuring areas under curves with a planimeter) increases rapidly as the dose is doubled. These data show that increased dosage markedly increases serum concentration and thus may enhance the drug's effectiveness.

FIGURE 6

Serum Levels With Varying Dosage



Antibiotic Activity With Varying Dosage



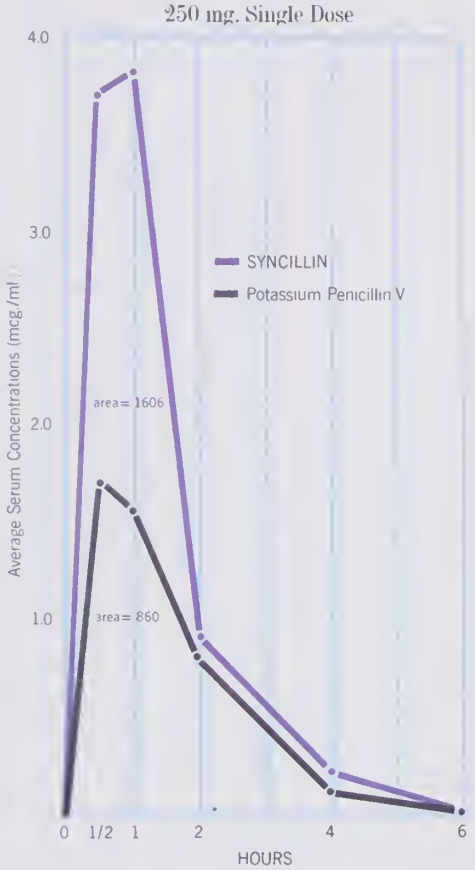
BLOOD LEVELS TWICE AS HIGH AS WITH POTASSIUM PENICILLIN V AFTER ORAL ADMINISTRATION

Wright[6] performed comparative crossover blood level studies on volunteer subjects receiving equivalent amounts of potassium penicillin V and SYNCILLIN. The peak concentrations attained during the first hour after administration were twice as high with SYNCILLIN.

The total antibiotic activity as measured by the area under the curves (see Figure 7) indicates an almost 2 to 1 superiority of SYNCILLIN (1606) over potassium penicillin V (860).

The higher blood levels may be of value with organisms of only moderate penicillin-sensitivity where doubling the blood concentration may be essential for effective bactericidal action. In addition these higher levels may be necessary where there is infection in areas with a poor blood supply.[7] Under these circumstances a higher blood concentration may provide the increased diffusion pressure required to deliver adequate amounts to the tissue.

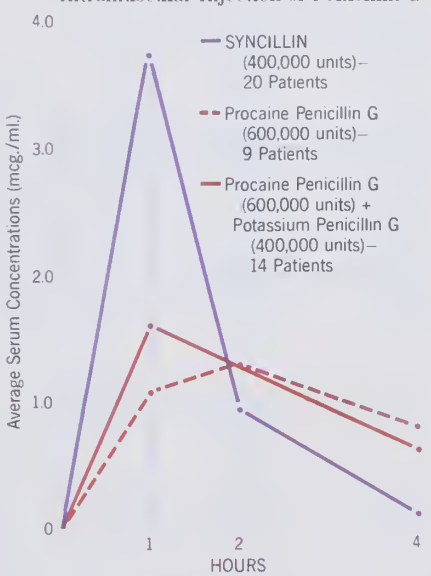
FIGURE 7
20 Subject Crossover
250 mg. Single Dose



BLOOD LEVELS MUCH HIGHER THAN WITH INTRAMUSCULAR PENICILLIN G

In addition, blood levels attained with oral SYNCILLIN[6] are much higher than those with intramuscular penicillin G.[8a,b] (See Figure 8.) Note that the level at one hour for SYNCILLIN (3.8 mcg./ml.) is more than twice as high as with procaine penicillin G, even when reinforced with potassium penicillin G (1.6 mcg./ml.). Since penicillins are *bactericidal,* these intermittent high serum levels can be clinically significant. Thus, SYNCILLIN offers the promise of superior efficacy via the safer oral route.

FIGURE 8—Serum Levels after Oral Administration of SYNCILLIN (250 mg.) and after Intramuscular Injection of Penicillin G



REDUCED HAZARD OF SERIOUS ALLERGENICITY BY SAFER ORAL ROUTE

SYNCILLIN has been administered in multiple doses to 437 patients and volunteers. One patient developed itching during therapy, possibly an allergic side effect. Another had a purpuric rash, but no relationship to SYNCILLIN was established. No reactions were observed in 9 patients with a known history of sensitivity to penicillin.

While the above data suggests the possibility of reduced allergenic hazard, no definite conclusions may be drawn at this time. *The usual precautions for oral penicillin therapy should be observed.* Patients with histories of asthma, hay fever, urticaria, or previous penicillin-sensitivity should especially be watched carefully. Since SYNCILLIN is administered orally, it may be expected to be safer than parenteral penicillin.

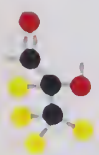
As Flippin[9] recently stated, ". . . it is well established that serious allergy to the drug [penicillin] is most likely to occur following parenteral administration, especially after repeated intramuscular injections; the oral route is least likely to initiate severe hypersensitivity reactions. This can be explained partly by the fact that when reactions develop following oral medication, they are usually slow enough to treat symptomatically; thus the progression of the reaction can usually be interrupted. . . . In view of the relatively high incidence of severe allergy to injectable penicillin, it would seem advisable to employ oral penicillin routinely, except in the control of infections involving the blood stream, endocardium, meninges, etc., in which cases the parenteral route remains the preferred treatment."

SYNCILLIN, like other penicillins, is essentially free of other toxicity. No hematopoietic, hepatic, or renal toxicity was observed in 210 volunteers receiving 1 gm. daily for 2 to 3 weeks.[10]

CLINICAL EFFICACY DEMONSTRATED IN PENICILLIN-SENSITIVE INFECTIONS

Clinical trials conducted by Blau and Kanof,[11] White,[12] Prigot,[13] Robinson,[14] Dube,[15] Ferguson,[16] Rutenburg,[17] Richardson,[18] Bunn,[19] Cronk,[5] Kligman,[10] and Yow [20] demonstrated the efficacy of SYNCILLIN in a variety of streptococcal, staphylococcal, pneumococcal, and gonococcal infections. Conditions treated included respiratory, skin, soft tissue, wound, and chronic urinary tract infections; acute gonorrhea; cellulitis; septicemia; otitis media; gingivitis; and Vincent's angina. In a few patients SYNCILLIN was used for rheumatic fever or gonorrheal prophylaxis.

One hundred seventy-two of one hundred ninety-six patients responded favorably to SYNCILLIN. The failures included 1 patient with pustular dermatoses, 10 elderly patients with chronic urinary tract infections, 1 patient with gonorrhea, 1 patient with a gram-negative infection, and 10 patients with staphylococcal infections. Lack of response of staphylococcal infections was attributed to the presence of resistant organisms or local suppurative foci requiring drainage.



Relatively few side effects were encountered. One patient experienced moderate itching of the skin which was controlled by an antihistamine. Another reported pruritus ani which did not interfere with therapy. Diarrhea occurred in 4 instances. There was one purpuric rash, but no relationship to SYNCILLIN could be established.

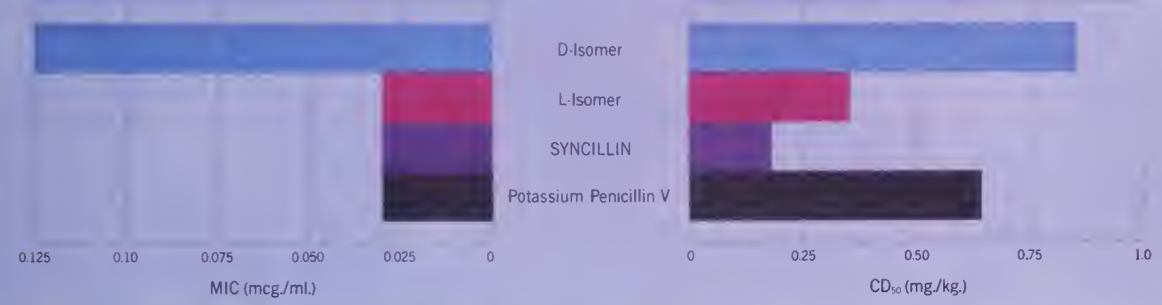
Clinical response usually begins within 24 hours in infections susceptible to SYNCILLIN. Recovery occurs in 4 to 7 days depending upon the severity of the infection. Gonorrheal infections respond very promptly to SYNCILLIN; 500 mg. b.i.d. for two days usually produce bacteriologic cures.

IMPROVED ANTIBIOTIC EFFECT FROM COMPLEMENTARY ACTION OF ISOMERS

SYNCILLIN is a mixture of isomers. The L-isomer is 2 to 17 times more active than the D-isomer against many of the organisms tested. Furthermore, the D- and L-isomers have other distinguishing chemical, pharmacological, and microbiological properties. Their *in vivo* and *in vitro* activities differ for many important pathogens. *Against many of the organisms tested, the combination of isomers* (SYNCILLIN) *is much more active than the stronger isomer alone.* This phenomenon of isomeric complementarity is not always demonstrable, for in a few instances SYNCILLIN is slightly less active.

Isomeric complementarity has previously been demonstrated *in vitro* (Figure 4) and *in vivo* (Figure 1). Figure 9 reveals a third form of superiority related to isomeric complementarity. Equal concentrations of SYNCILLIN and penicillin V were required to inhibit this growth of staphylococci *in vitro*. But, *in vivo*, a much smaller amount of SYNCILLIN *(one-third that of penicillin V)* was effective in an experimental infection with the same strain. These observations on complementary action indicated the advantage of producing the mixture of isomers as the medication to be made available for clinical therapy.

FIGURE 9 – Comparison of CD_{50} and MIC Values Against *Staphylococcus aureus* (var. Smith)



Isomeric complementarity has thus been demonstrated for:

—– *certain penicillin-susceptible streptococci, staphylococci and corynebacteria* in vitro *(Table 1)*

—– *penicillin-susceptible staphylococci* in vivo *(Figures 1 and 9)*

—– *penicillin-resistant staphylococci* in vitro *(Figure 4)*

—– *staphylococcal penicillinase antibiotic inactivation (Figure 5)*

Indications:

SYNCILLIN is recommended in the treatment of infections caused by pneumococci, streptococci, gonococci, corynebacteria, and penicillin-sensitive staphylococci. In addition, SYNCILLIN is effective against certain strains of staphylococci resistant to other penicillins.

SYNCILLIN, like other oral penicillins, is not recommended at the present time in deep-seated or chronic infections, subacute bacterial endocarditis, meningitis, or syphilis.

Dosage:

125 mg. or 250 mg. three times daily, depending on the severity of infection. Larger doses (e.g., 500 mg. t.i.d.) may be used for more severe infections. SYNCILLIN may be administered without regard to meals.

Beta hemolytic streptococcal infections should be treated with SYNCILLIN for at least ten days.

Precautions:

While present data suggest the possibility of reduced allergenic hazard, no definite conclusions may be drawn at this time. *Therefore the usual precautions with oral penicillin therapy must be observed.* Patients with histories of asthma, hay fever, urticaria, or previous reactions to penicillin should be watched with special care.

Diarrhea has been reported occasionally following heavy dosage. If this occurs, the interval between dosages should be lengthened.

If superinfection occurs during therapy, appropriate measures should be taken.

Since some strains of staphylococci are resistant to SYNCILLIN as well as to other penicillins, cultures and sensitivity tests should be performed where indicated by clinical judgment. As is true with all antibiotics, clinical response does not always correlate with laboratory bacterial sensitivity reports.

Supply:

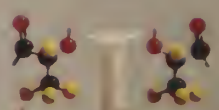
125 and 250 mg. tablets, bottles of 25 and 100. 125 mg. powder for oral solution, 60 ml. vials.

References: 1. Lein, J.: Microbiology report to Bristol Laboratories Inc. 2. Wright, W. W.: Microbiology report to Bristol Laboratories Inc. 3. White, A. C.: Microbiology report to Bristol Laboratories Inc. 4. Dubos, R. J.: Bacterial and Mycotic Infections of Man, 3rd edition, Philadelphia, J. B. Lippincott Co., p. 690. 5. Cronk, G. A.: Clinical report to Bristol Laboratories Inc. 6. Wright, W. W.: Clinical report to Bristol Laboratories Inc. 7. Kass, E. H.: Am. J. Med. *18*:764 (May) 1955. 8a. White, A. C.; Couch, R. A.; Foster, F.; Calloway, J.; Hunter, W., and Knight, V.: in Welch, H. and Marti-Ibañez, F.: Antibiotics Annual — 1955-1956, Medical Encyclopedia, Inc., New York, 1956, p. 490. b. Data on file — at Bristol Laboratories. 9. Flippin, H. F.: Pennsylvania M. J. *62*:864 (June) 1959. 10. Kligman, A.: Clinical report to Bristol Laboratories Inc. 11. Blau, S., and Kanof, N.: Clinical report to Bristol Laboratories Inc. 12. White, A. C.: Clinical report to Bristol Laboratories Inc. 13. Prigot, A.: Clinical report to Bristol Laboratories Inc. 14. Robinson, C.: Clinical report to Bristol Laboratories Inc. 15. Dube, A. H.: Clinical report to Bristol Laboratories Inc. 16. Ferguson, B.: Clinical report to Bristol Laboratories Inc. 17. Rutenburg, A. M.: Clinical report to Bristol Laboratories Inc. 18. Richardson, J. H.: Clinical report to Bristol Laboratories Inc. 19. Bunn, P. A.: Clinical report to Bristol Laboratories Inc. 20. Yow, E. M.: Clinical report to Bristol Laboratories Inc.

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major therapeutic advantages accompany molecular asymmetry

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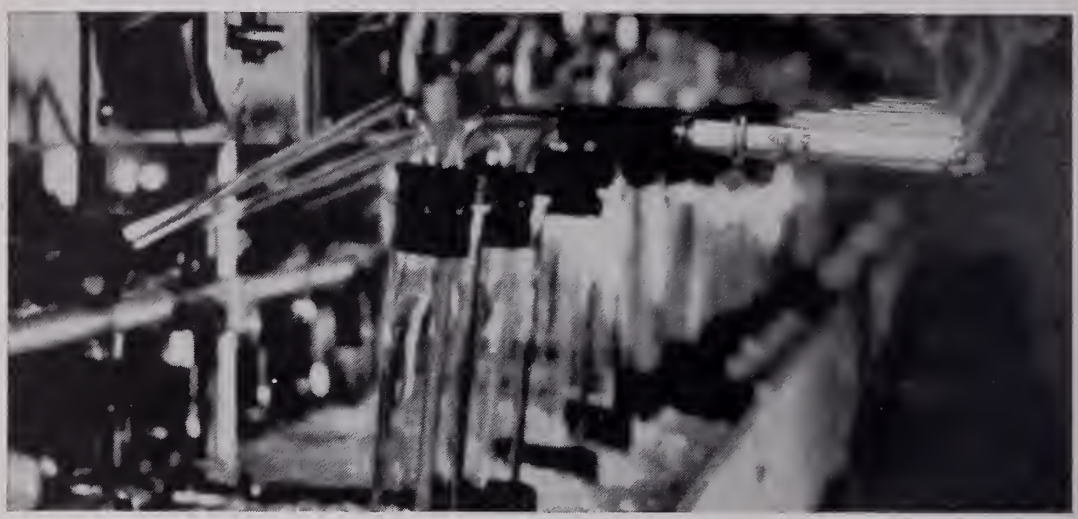
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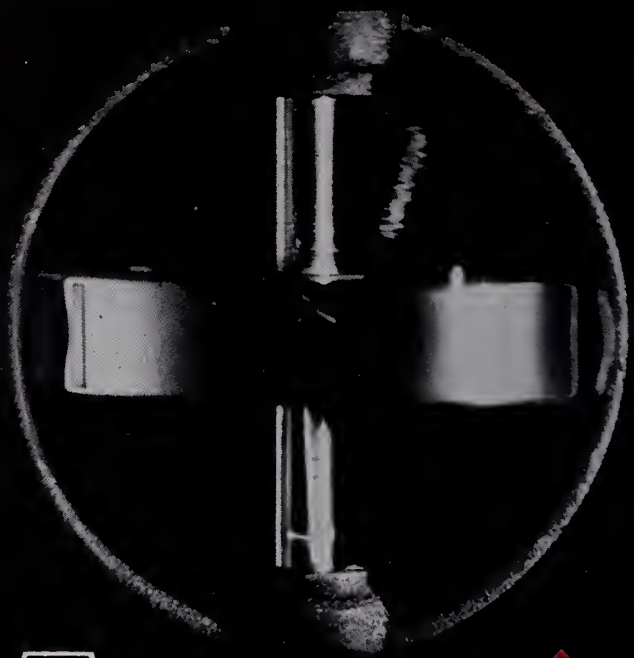


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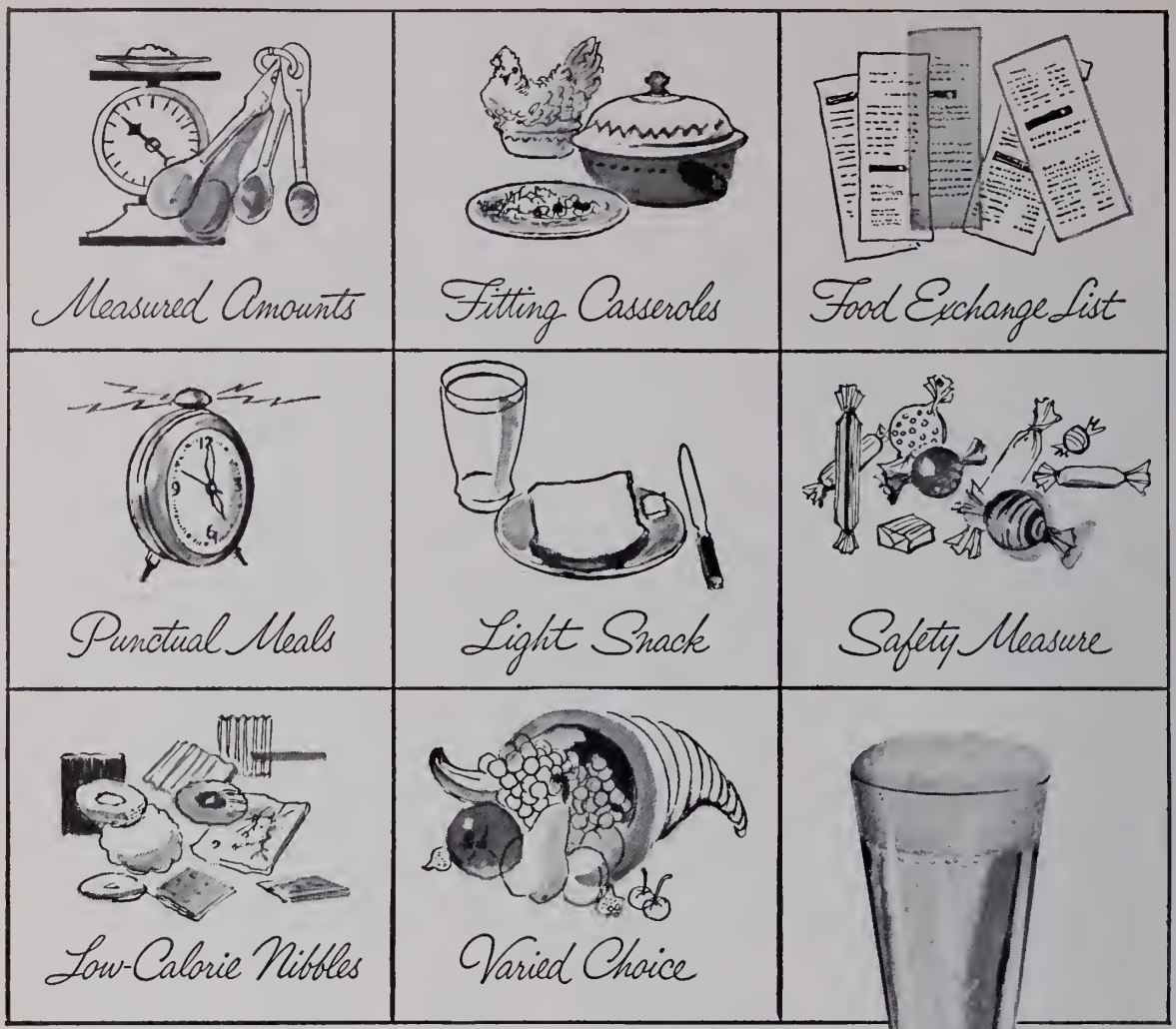
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ons: rheumatoid arthritis; arthritis; respiratory allergics; allergic and inflammatory ses; disseminated lupus erythematosus; nephrotic syndrome; lymphomas and leukemias.
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e Parenteral (for intra-articular and intrasynovial injection). Vials of 5 cc. (25 mg./cc.).

References: 1. Feinberg, S.M., Feinberg, A.R., and Fisherman, E.W.: *J.A.M.A.* 167:58 (May 3) 1958. 2. Epstein, J.I. and Sherwood, H.: *Connecticut Med.* 22:822 (Dec.) 1958. 3. Friedlaender, S. and Friedlaender, A.S.: *Antibiotic Med. & Clin. Ther.* 5:315 (May) 1958. 4. Segal, M.S. and Duvenci, J.: *Bull. Tufts North East M. Center* 4:71 (April-June) 1958. 5. Segal, M.S.: Report to the A.M.A. Council on Drugs, *J.A.M.A.* 169:1063 (March 7) 1958. 6. Sherwood, H. and Cooke, R.A.: *J. Allergy* 28:97 (Mar.) 1958. 7. Duke, C.J. and Oviedo, R.: *Antibiotic Med. & Clin. Ther.* 5:710 (Dec.) 1958. 8. McGavack, T.H.: *Clin. Med.* (June) 1958. 9. Freyberg, R.H.; Berntsen, C.A., and Hellman, L.: *Arthritis and Rheumatism* 1:215 (June) 1958. 10. Hartung, E.F.: *J.A.M.A.* 167:973 (June 21) 1958. 11. Hartung, E.F.: *J. Florida Acod. Gen. Pract.* 8:18, 1958. 12. Zuckner, J.; Ramsey, R.H.; Caciolo, C., and Gantner, G.E.: *Ann. Rheum. Dis.* 17:398 (Dec.) 1958. 13. Appel, B.; Tye, M.J., and Leibsohn, E.: *Antibiotic Med. & Clin. Ther.* 5:716 (Dec.) 1958. 14. Kalz, F.: *Conad. M.A.J.* 79:400 (Sept.) 1958. 15. Mullins, J.F., and Wilson, C.J.: *Texas State J. Med.* 54:648 (Sept.) 1958. 16. Shelley, W.B.; Harun, J.S., and Pillsbury, D.M.: *J.A.M.A.* 167:959 (June 21) 1958. 17. DuBois, E.F.: *J.A.M.A.* 167:1590 (July 26) 1958. 18. McGavack, T.H.; Kao, K.T.; Leake, D.A.; Bauer, H.G., and Berger, H.E.: *Am. J. Med. Sc.* 236:720 (Dec.) 1958. 19. Council on Drugs: *J.A.M.A.* 169:257 (Jan. 17) 1959. 20. Rein, C.R.; Fleischmajer, R., and Rosenthal, A.R.: *J.A.M.A.* 165:1821 (Dec. 7) 1957.

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POVAN SUSPENSION is administered orally in a single dose. In small children, the dose is equivalent to 5 mg. pyrvinium base per Kg. of body weight.

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(1) Beck, J. W.; Saavedra, D.; Antell, G. J., & Tejeiro, B.: Am. J. Trop. Med. 8:349, 1959.

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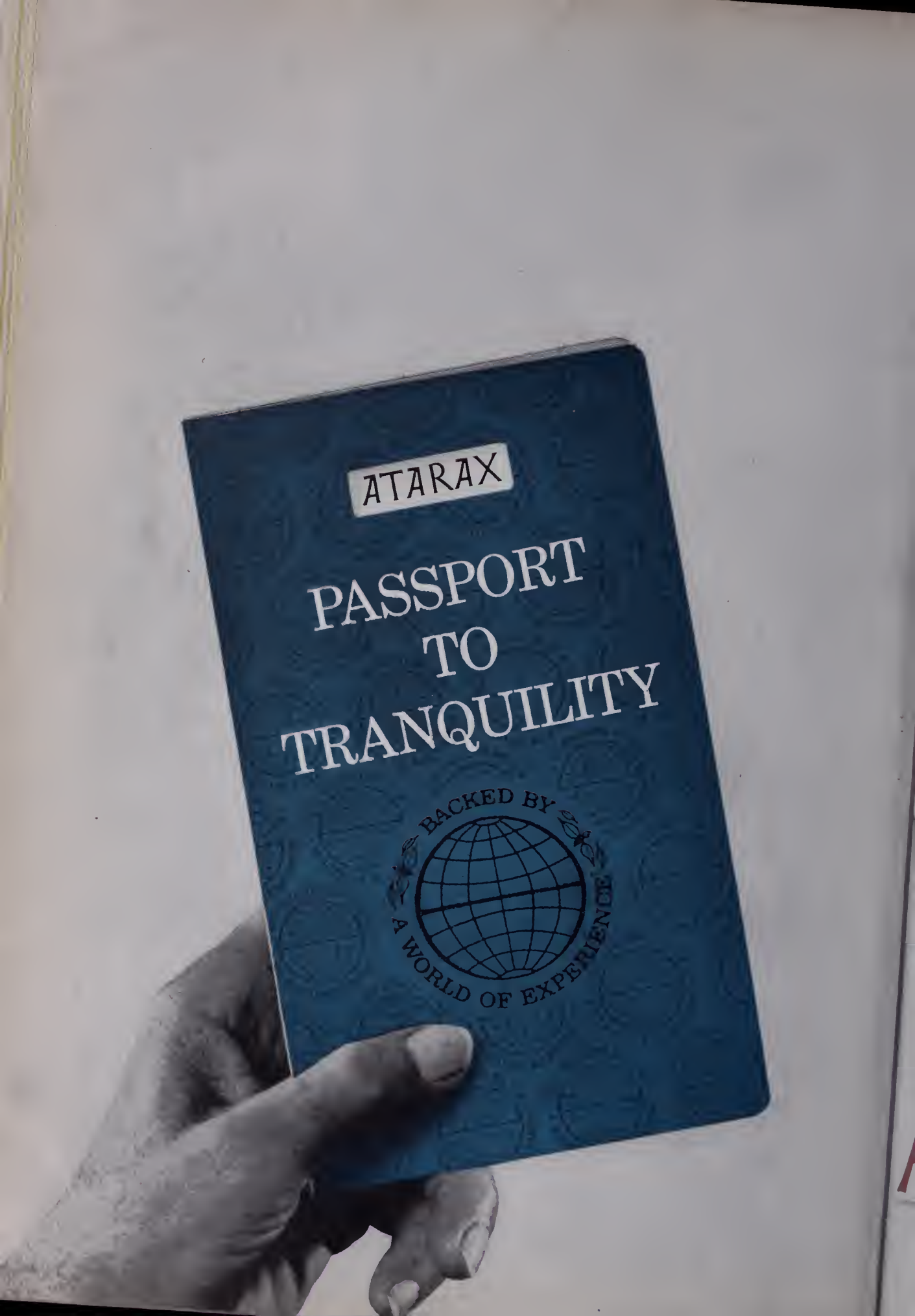
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References: 1. Farah, L.: Internat. Rec. Med. *169*:379 (June) 1956. 2. Smigel, J. O., et al.: J. Am. Geriatrics Soc. *7*:61 (Jan.) 1959. 3. Feinberg, A. R., et al.: J. Allergy *29*:358 (July) 1958. 4. Eisenberg, B. C.: J.A.M.A. *169*:14 (Jan. 3) 1959. 5. Maryssael, L.: Bruxelles-méd. *38*:141 (Jan. 26) 1958. 6. Pfleger, R.: Med. Klin. *53*:1030 (June 5) 1958. 7. Over 200 laboratory and clinical papers from 14 countries.

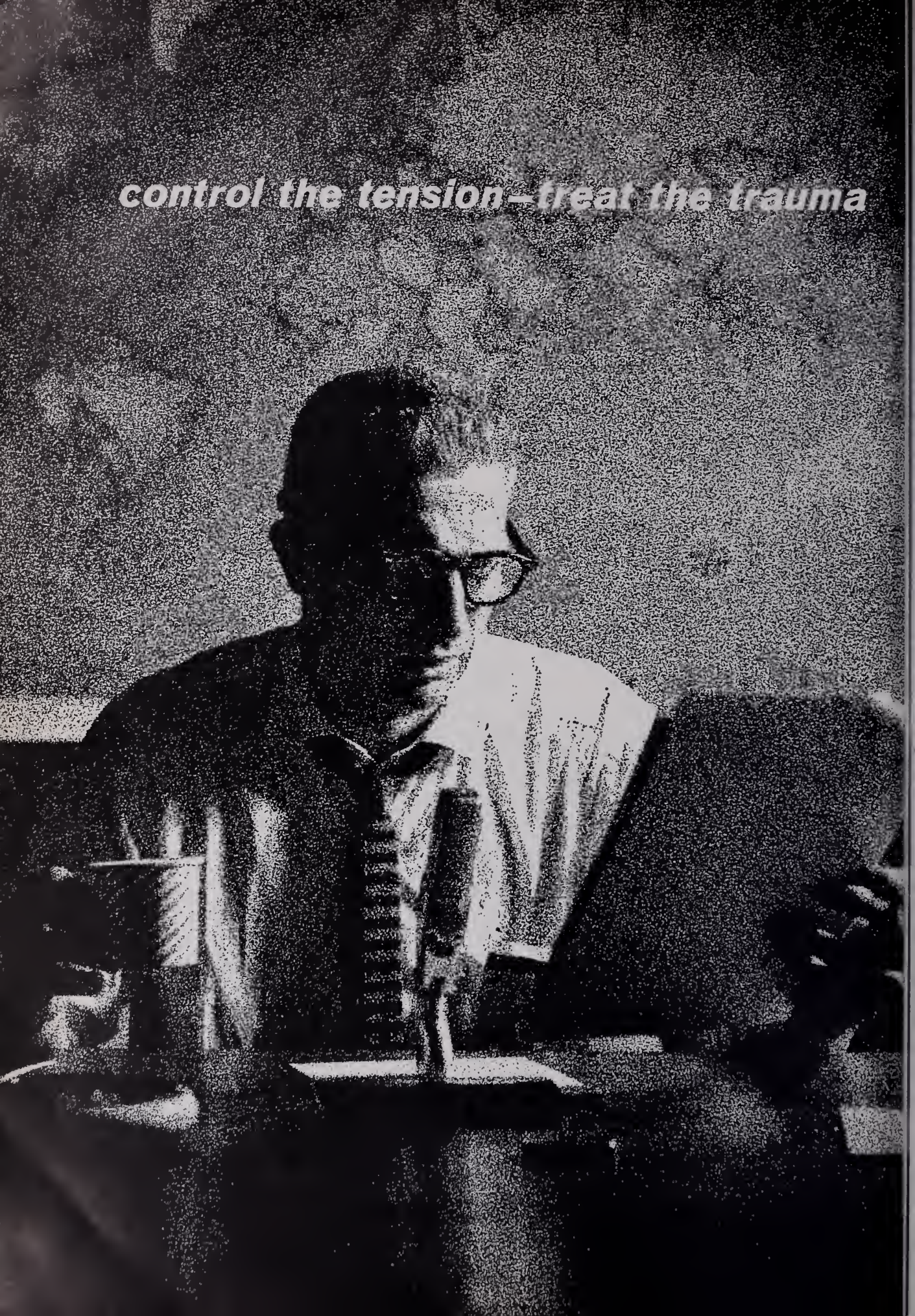
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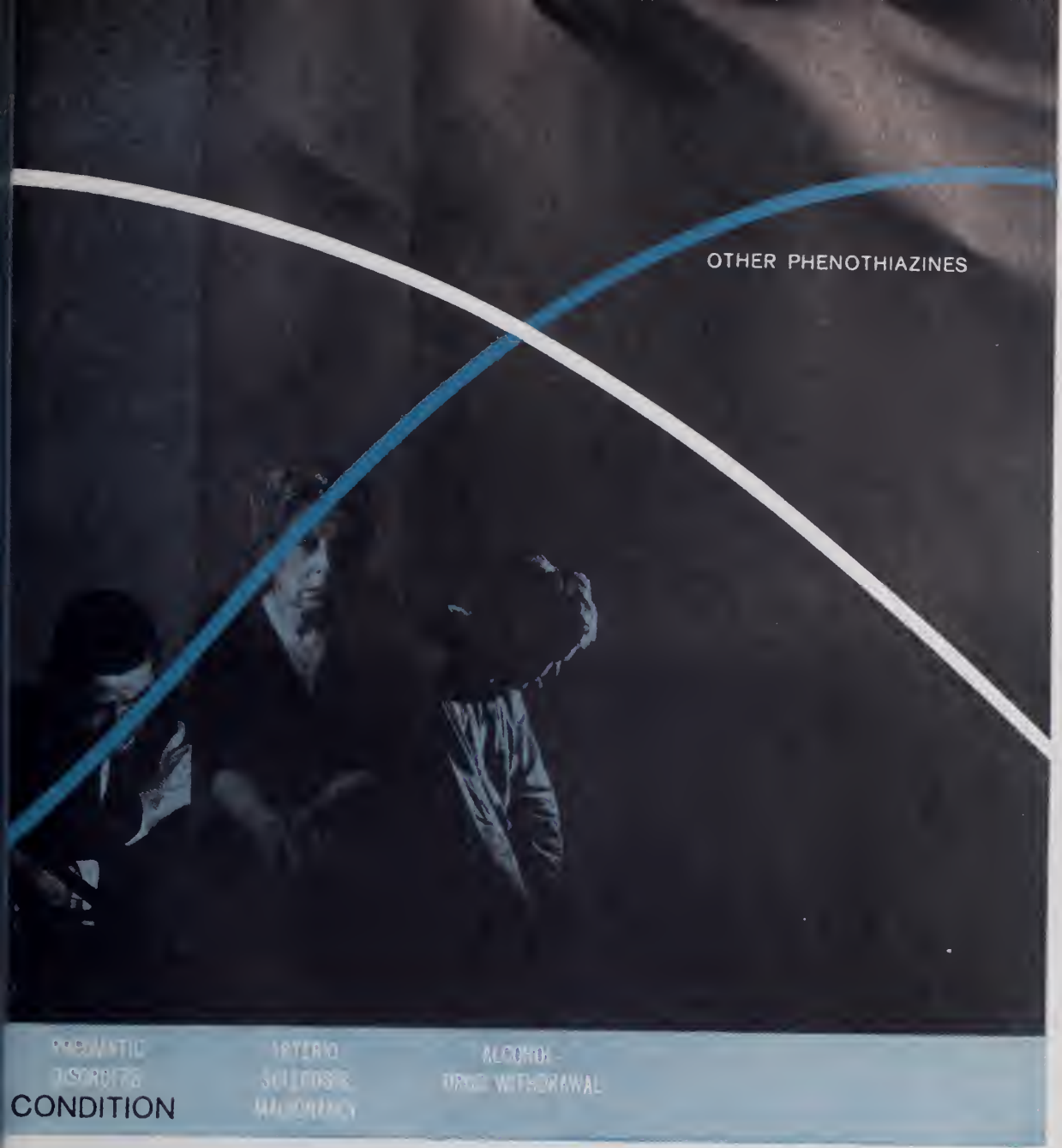
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TENTONE parallels the weaker ataractics in low incidence of side effects. Freedom from induced depression is apparently even greater.[5]

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TENTONE is also indicated to relieve emotional stress in surgical, obstetric and other hospitalized patients.



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1. Bodi, T., and Levy, H.; Clinical report, cited with permission. 2. Wetzler, R. A., and Phillips, R. M.: Clinical report, cited with permission. 3. Prigot, A.: Clinical report, cited with permission. 4. Gosline, E., *et al.: Am. J. Psychiat.* 115:939 (April) 1959. 5. Turvey, S. E. C.: Clinical report, cited with permission.

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the disease of many masks

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TABLETS

specific for intestinal amebiasis

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Tetracycline-Triple Sulfa Combination (TETREX® $\overline{c}$ T/S) in the Treatment of INFECTION

It is generally agreed that it is ideal to withhold antibiotic and chemotherapeutic drugs until after sensitivity tests show which antibacterial agent will be most effective. But very often, in actual practice, the physician knows that delay in starting antibacterial treatment may be detrimental to the welfare of his patient. He must then select the therapy to meet the most serious and immediate threats to the patient.

Why Combination Therapy?

Certain infections do not respond as well to a single agent as to a combination. *Hemophilus influenzae* infections, which are frequent in children, are a particularly serious threat to infants and children up to about 3 or 4 years of age since they have not yet built up any appreciable immunity. Serious complications such as influenzal pneumonia, empyema, or meningitis may develop, especially in this age group. In fact, except for those periods when meningococcal meningitis is epidemic, *H. influenzae* is the most frequent cause of meningitis.[1] This gram-negative organism is highly susceptible both to the tetracyclines and to the sulfonamides. Even in severe infections, therapeutic failure can be virtually eliminated by giving sulfonamides plus tetracycline.[1] These two agents together constitute the treatment of choice, and give better results than either alone.[2]

Sulfonamides remain the drugs of choice for all meningococcal infections, including meningitis. They readily penetrate the blood-brain barrier and pass into the cerebrospinal fluid in good concentrations.[3] In treating overwhelming meningococcal infections, and complicating infections of the upper respiratory tract caused by other organisms, the addition of tetracycline to sulfas can be valuable.[4]

In recent years the sulfonamides have again been prescribed more and more frequently. In certain serious infections, better results can be obtained with a combination of antibiotic and sulfonamide than with either drug alone (e.g., severe pneumococcal pneumonia or pneumococcal meningitis[5]). Furthermore, mixed infections, to which young children are particularly susceptible, often respond only to combination therapy such as tetracycline with sulfonamides (TETREX $\overline{c}$ T/S).

Why Triple Sulfas?

Some sulfonamides, though therapeutically useful, frequently crystallize and cause renal damage. Sulfonamide mixtures are designed to prevent this effect. It is known that different substances can coexist in solution without interfering with each other's solubility. In such a solution each component behaves as if it alone were present. Thus, a much larger total amount of sulfonamide can exist in the urine without precipitating if a mixture is administered than if the same amount of only one compound is given.

Similarly, there is less danger of hypersensitivity with mixtures. The incidence of sensitization varies directly with the dosage and is limited to the particular sulfa given. Simultaneous use of several sulfa compounds, each in partial dosage, tends to keep each drug below its own sensitization level.[3] As with all sulfonamides, it is advisable to check for possible blood dyscrasias, rash, or renal toxicity during extended administration.

TETREX $\overline{c}$ T/S, by combining only 167 mg. each of sulfadiazine, sulfamerazine, and sulfamethazine, practically eliminates serious renal damage and sensitization reactions due to sulfonamides while retaining the therapeutic efficacy of the total dose.

TETREX $\overline{c}$ T/S can be administered with confidence in all severe and mixed infections due to tetracycline-sensitive and sulfonamide-sensitive organisms, including infections of the upper respiratory, urinary, and gastrointestinal tracts.

References: 1. Alexander, H. E.: The hemophilus group. In: Dubois, R. J.: Bacterial and Mycotic Infections of Man. Ed. 3, Philadelphia, J. B. Lippincott Co., 1958, p. 470ff. 2. Goodman, L. S., and Gilman, A.: The Pharmacological Basis of Therapeutics. Ed. 2, New York, The Macmillan Co., 1956, pp. 1322-1323. 3. Beckman, H.: Drugs — Their Nature, Action, and Use. Philadelphia, W. B. Saunders Co., 1958, pp. 527-528. 4. Dingle, J. H.: Meningococcal infections. In: Cecil, R. L., and Loeb, R. F.: A Textbook of Medicine. Ed. 9, Philadelphia, W. B. Saunders Co., 1955, p. 196ff. 5. Goodman, L. S., and Gilman, A.: The Pharmacological Basis of Therapeutics. Ed. 2, New York, The Macmillan Co., 1956, p. 1308.

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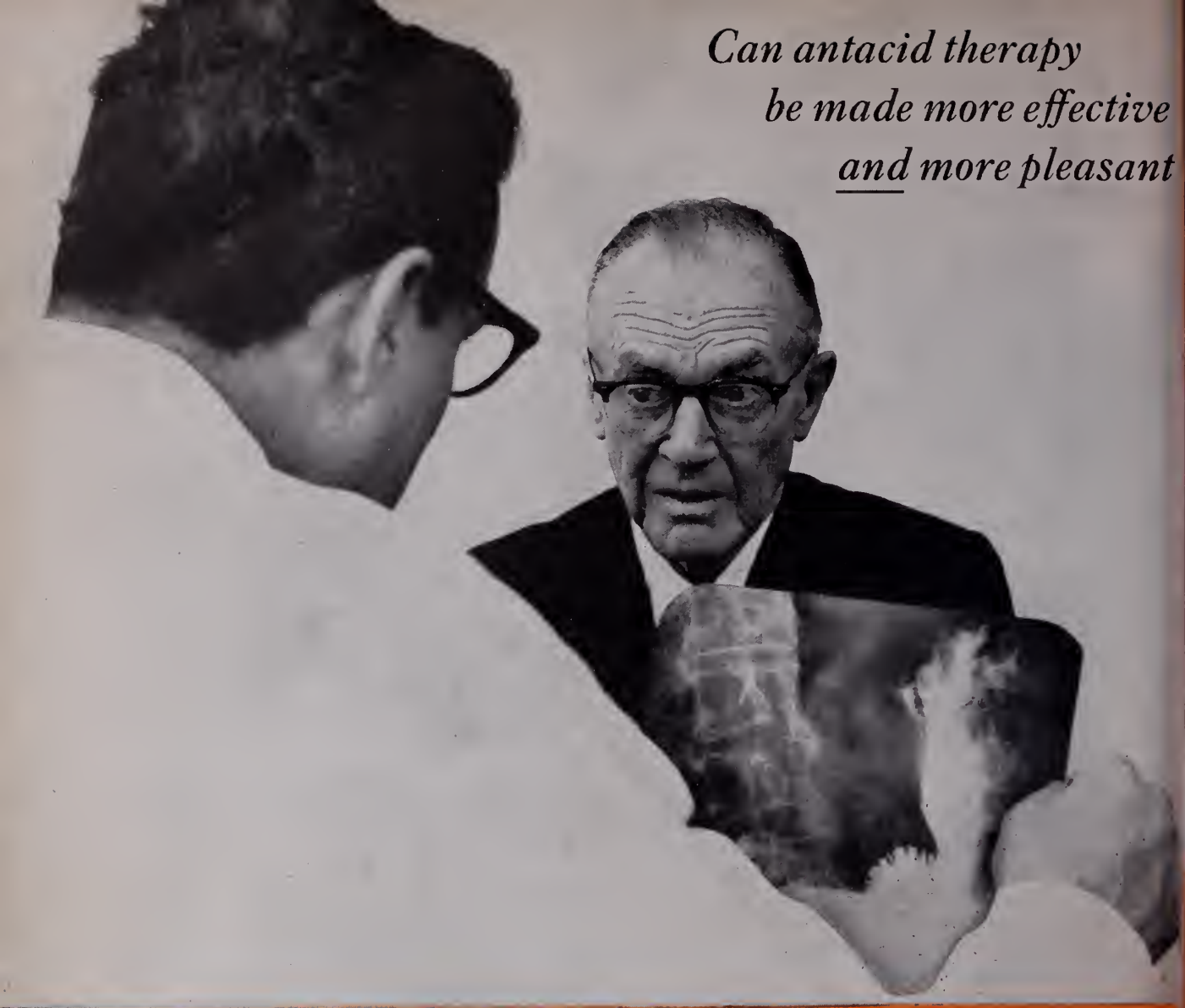
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Sulfamerazine	**167 mg.**
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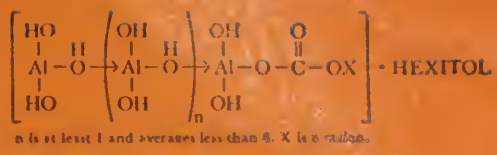
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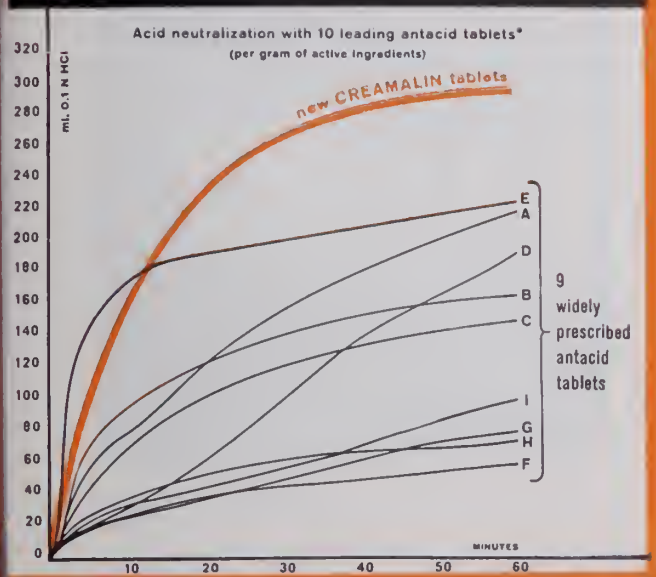
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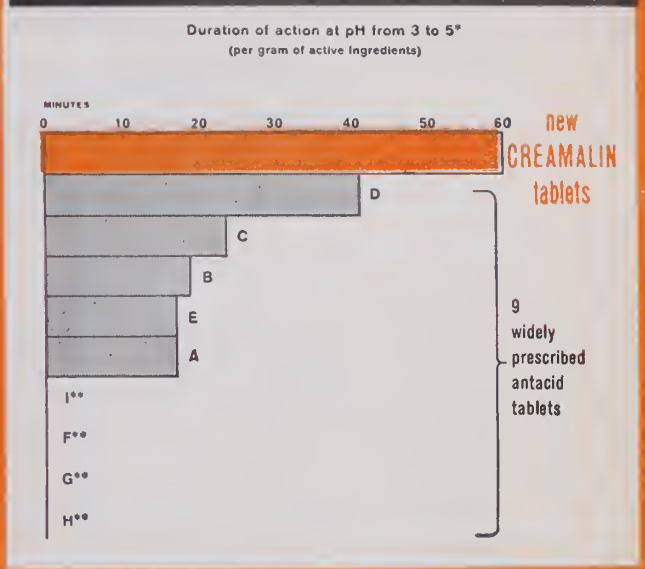
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*Hinkel, E. T., Jr., Fisher, M. P. and Talntor, M. L.: A new highly effective aluminum hydroxide complex for gastric hyperacidity. To be published.

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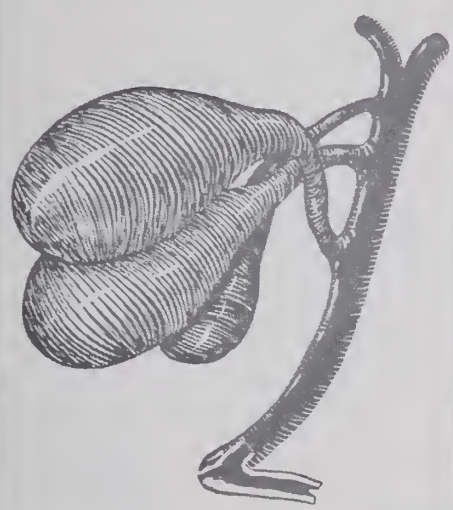
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Source: Skilboe, B.: Am. J. Clin. Path. *30*:252, 1958.



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(1) Beckman, H.: Drugs: Their Nature, Action and Use. Philadelphia, W. B. Saunders Company, 1958, p. 425.
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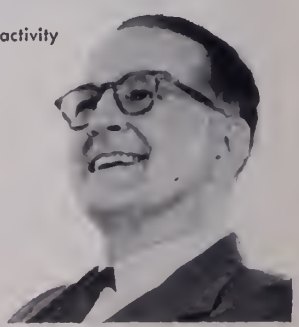
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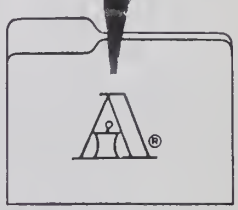
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*Thompson, R. E., and Hecht, R. A.: Am. J. Clin. Nutrition 7:311-317 (May-June) 1959.

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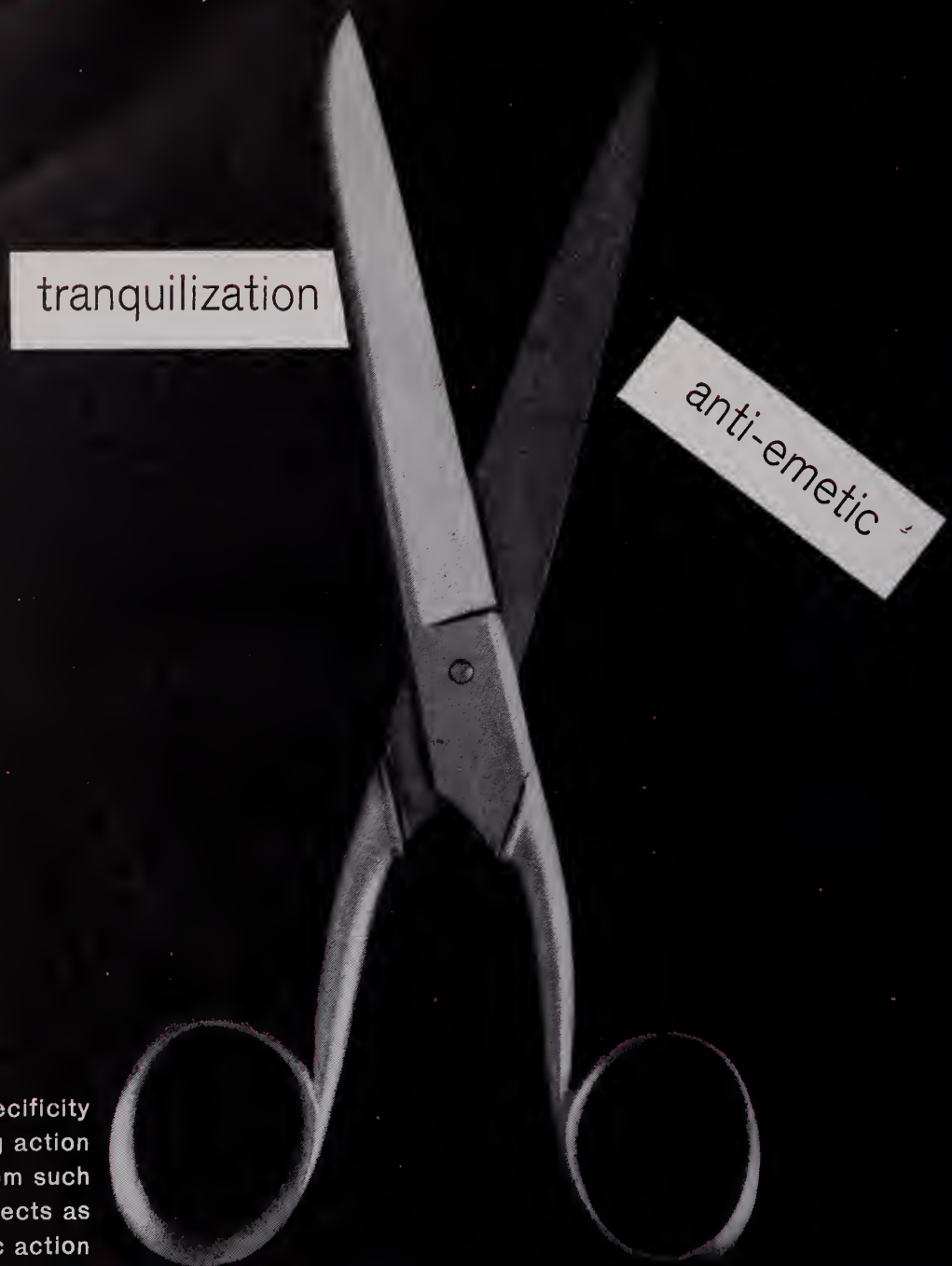
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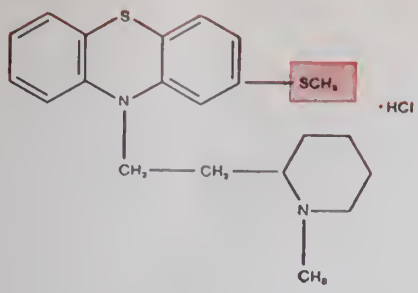
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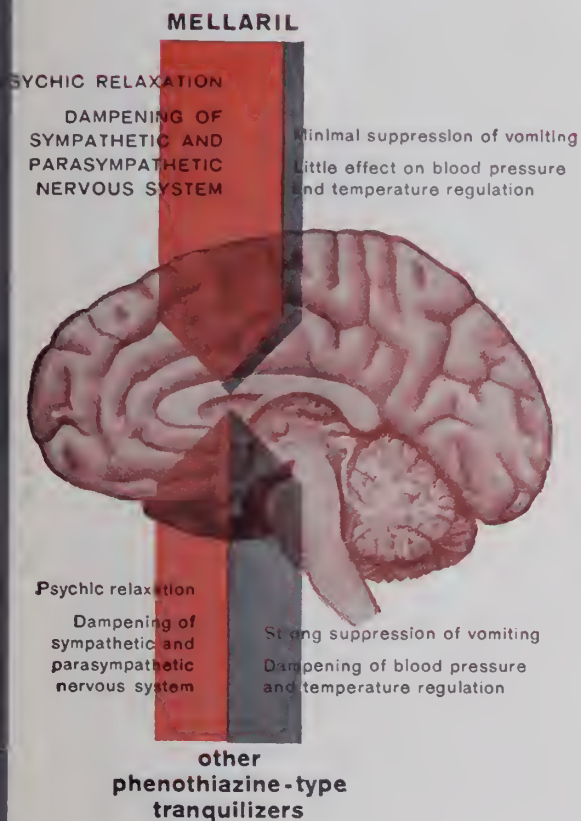
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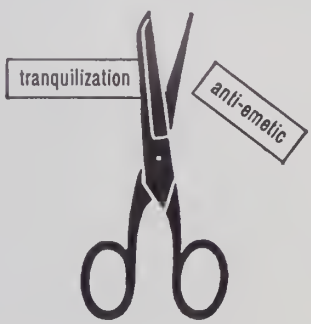
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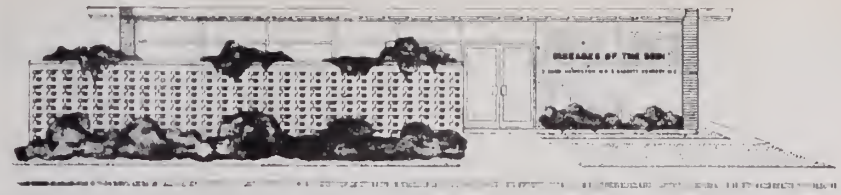
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